

Small Business Competition. See details inside

FREE

The Computer PAPER

A Trade Press Publication

Florida's Computer Information Source

Customer Support: 800-888-7777 • Fax: 772-334-1111 • Internet: FPCOMP@AOL.COM

GREATER TORONTO EDITION: MAY 2002 VOLUME 10 NO. 10

WIRELESS GROWS UP

test
Lab: Security Devices

SAMSUNG

WWW.SAMSUNG.CA

POWER STATION



SAMSUNG SYNCMASTER® 753DF

Get into the control seat. The Dynafit™ delivers absolutely accurate, distortion-free images. It's the only monitor with no visible curvature when viewed from any angle. Assure total control – the Dynafit's reduced glare and high light transmission rates give you dynamic clarity and contrast with brilliant saturated colour. Now nothing gets between you and your total game experience.

Zero-in on the action and blast-away!

**The 753DF Monitor, high-precision power that
takes you wherever your imagination leads.**



For more information, 1-800-SAMSUNG

SAMSUNG DIGITAL
everyone's favorite

© 1998 Samsung Electronics Canada Inc. Syncmaster and Dynafit are trademarks of Samsung Electronics Co., Ltd. Accessories not included.

Available at:

Canada Computers
905-946-9688
Superior Computers
519-672-6617

C&P Multimedia
416-667-1668
PC Village
905-889-5488

J-Net Computers
905-918-1128
ICCT
1-886-519-1027

OAM Group
416-778-6080
PC For Canada
416-593-6688

Mind Computer Systems
1-800-387-9864
Infinity Technologies
905-890-9797



GREATER TORONTO EDITION MAY 2002

COMING UP

June 2002

Cover story: Making the Web
talk like a human

Ad Deadline Tue., Apr. 30
Distribution Fri., May 17

July 2002

Cover story: Internet personality
talks Tech, Singapore and more

Ad Deadline Tue., May 28
Distribution Fri., Jun. 15

August 2002

Cover story: The Gadgeteer
talks Tech, K-Mart and more

Ad Deadline Tue., July 2
Distribution Fri., July 19

IN THIS ISSUE

Commentary

- 6 From the Editor
- 10 Letters

New & Notable

- 12 What's New

Wireless Grows Up

- 14 Wireless world slowly emerging
- 16 Book review: Wireless technology illustrated
- 16 Wireless devices coming your way
- 24 Services will drive 3G
- 26 Motorola shows multiFunction 16 phones
- 28 Versatile email, datacomm with Symmetry Pro
- 30 Bro convergence handheld comes north
- 32 Go go gadget car?
- 51 Satellite industry frets over broadband

Hands On

- 41 Hardware security from A to Z
- 42 PCP look looks of choice to help keep your data safe
- 61 Master's 100 drives go external
- 64 In Design: 2.0 comes up solid
- 66 LiveSlideShow an innovative tool
- 69 Security glossary

Small Office Technology

- 64 Managing your paper
ScanSoft helps digitize and organize documents and files
- 64 Canada talks in key e-biz areas: report
- 64 Office Suite Training: Cool Word tools

By Kim Korman

Platform News

- 72 Faster components mean faster systems
- 72 Motherboard redux
- 88 Apple News: iSight brings new products, but news

Camers & Training

- 94 Career Profile: IT specialist is a go-to-it
- 94 Book review: A programming primer for Flash designers

Reader Services

- 98 Advertising Index
- 99 Classified
- 99 User Groups
- 100 Business Directory

**Unlimited
Internet
Access
\$14.95**

uraxis.com

Call now - instant activation without account setup

1-888-403-9888

It's not the computer you stare at.



That's why we, at ViewSonic, are committed to bringing the best in visual display technology to your desktop.

ViewSonic: Delivering Value and Performance Everyday

There's no better time to step up to the advantages of award-winning LCD displays than ViewSonic®. Our high performance displays are designed with proven innovation and award winning quality and reliability.

An LCD for Every Need

ViewSonic's family of LCDs came with varying feature sets to satisfy your unique needs. Choose the features that are right for you, including:

- SuperClear MVA™ Technology, delivering high contrast and brilliant colours for superior image clarity
- Exclusive 2Touch™ auto tune, ensuring the best possible image by automatically optimizing the monitor settings
- 30 video response, for applications like DVD and streaming video
- Dual USB ports
- Picture-in-picture
- Portrait/landscape pivot, ideal for spreadsheets, desktop publishing and long internet pages

Explore all your visual display choices, including the world's largest selection of LCD features and sizes - from 14" - 22" at www.ViewSonic.com

15.5" LCDs

Panel Size	Resolution	Panel Type
V1550	1024x768	SuperClear MVA
V1550A	1024x768	SuperClear MVA

Panel Size	Resolution	Panel Type
V1550B	1024x768	SuperClear MVA
V1550C	1024x768	SuperClear MVA

Panel Size	Resolution	Panel Type
V1550D	1024x768	SuperClear MVA
V1550E	1024x768	SuperClear MVA

Panel Size	Resolution	Panel Type
V1550F	1024x768	SuperClear MVA
V1550G	1024x768	SuperClear MVA

Panel Size	Resolution	Panel Type
V1550H	1024x768	SuperClear MVA
V1550I	1024x768	SuperClear MVA

Panel Size	Resolution	Panel Type
V1550J	1024x768	SuperClear MVA
V1550K	1024x768	SuperClear MVA

17" LCDs

Panel Size	Resolution	Panel Type
V1700	1280x800	SuperClear MVA
V1700A	1280x800	SuperClear MVA

Panel Size	Resolution	Panel Type
V1700B	1280x800	SuperClear MVA
V1700C	1280x800	SuperClear MVA

Panel Size	Resolution	Panel Type
V1700D	1280x800	SuperClear MVA
V1700E	1280x800	SuperClear MVA

Panel Size	Resolution	Panel Type
V1700F	1280x800	SuperClear MVA
V1700G	1280x800	SuperClear MVA



Copyright © ViewSonic Corporation. All rights reserved. Corporate names and trademarks listed herein are the property of their respective companies. Features and product specifications subject to change without notice.



ViewSonic
See the Difference

Road wearier



There's a standing joke that air travelers spend more time getting to and waiting around airports than they do in the air. Though this measure now means more than ever, the more stringent security measures implemented since Sept. 11 are not necessarily the biggest contributing factors to the wait time on airplanes.

Of the past few trips, the only time I nearly missed my flight was because of bond racks, not at the security gate, but at an understaffed check-in counter. The combination in Vancouver International Airport of three hurried agents dealing with a few too many needy passengers was sufficient to increase the wait to nearly an hour. I made the plane mainly because takeoff was delayed, but my luggage had to take a later flight.

That's not to say that the time for added security isn't significant. It does add another step in the passenger-handling procedure, and you will be affected, particularly if you travel carrying technology.

I typically travel on business with a notebook computer, cellular phone, BlackBerry pager, and an organizer. Departing from Orlando, Fla., a couple of months ago, I was asked to turn on only my notebook computer. A breeze, I thought, but I was pulled out of the line for a manual search of my bag and shoes where the x-ray operator spotted something suspicious. The items that caught her eye turned out to be a pair of novelty pens I'd picked up at a trade show. They had batteries and old-fashioned light bulbs in them—I suppose someone on the lookout for no good could have seen them as detonators or nerve gas containers or Kliegman diversions. But it's comforting to know that my shoes are certified benign.

For a domestic flight from Calgary to Toronto, I was

surprised to find the security procedure was stricter than when I flew out of the U.S. I was required to turn in everything—notebook computer, organizer, pager, cell phone, and digital camera. Then the security guard glared at me accusingly as he reached in my bag and fished out a digital tape recorder I'd forgotten about.

It was at this point that I realized a mental note to look into one of those new Handspring Treos. Some days earlier, during Comdex Vancouver, I attended a news conference where Handspring and Rogers AT&T Wireless jointly announced the product's availability in Canada.

The Treo 180 incorporates some of the most attractive features of today's existing mobile devices. It is a GSM/GPRS phone, meaning it will handle voice and data. It is also a PDA/organizer that uses the Palm operating system and Palm applications (the Elanx Web browser is included); it incorporates a full-sized computer keyboard, like the RIM BlackBerry, and will do SMS messaging. Later this year, when Rogers AT&T Wireless completes its GPRS rollout, the Treo will also handle standard email and data, thus becoming a more versatile citizen of the Internet. I've not been a big fan of combination devices, but this one has convinced me to reconsider.

If you've only seen pictures of the Trio, you will probably be surprised at how small it is—more like a phone (albeit a chunky one) than an organizer. And that's by design. As Jan Mandel, who runs Handspring's Canadian operations, points out, "It's got to be a great mobile phone first."

The unit defaults to phone mode, but it is easy to switch between phone and organizer. Moreover, the cellular features can

be used simultaneously, so you can be on the phone and look up or enter data with the Palm portion.

The provided earphone set would facilitate this, but a speaker is incorporated into the flip-up lid, so you can also hold it to your ear like a regular phone. A color-coded model is coming.

I prefer the Palm platform's more robust organism desktop and third-party applications to the BlackBerry's limited formfactor, but always-on email is so convenient—particularly if you are at a trade show or on the road—that I'll surely end up carrying the BlackBerry and a phone, leaving the computer in the hotel.

We're willing to get a review unit to test for a few weeks, but on paper, the three-in-one Trio sounds like sweet medicine for the geek tool belt syndrome. It may expedite the probes and prods through airport security, too.

IT innovation

We are pleased to announce the Microsoft Canada Co. and The Congruent Paper Small Business Competition. You could win a Microsoft Small Business Server 2000 implementation, including hardware and services. Full details and entry form can be found in this issue or at www.microsoft.ca/bwintride.

Enjoy the area
David Tanaka
Editor

[illegible]

MOTHERBOARDS

ADD-ON CARDS

CASES

CD/DVD/RW DRIVES

POWER UP WITH P4-DDR!

Boosting your Pentium® system performance is easy... simply replace your motherboard with the new ADOpen D4M Pro! It supports up to 2GB of high speed DDR SDRAM and comes equipped with professional features like "Magazine" mapping, selective BIOS/POST, Side Bus speeds, 4 USB ports, onboard "Dr. Vista" virus scanner and "Watchdog Timer", which protects the system with timer P4 open overlock failures.

Wait no more, act now and let your P4 system perform!

For the complete details, visit:

www.ADOpen.com

ADOpen D4M Pro

www.ADOpen.com

ADOpen

Open
Solutions • Components

DAYTEK
A POWER SUPPLY SPECIALIST SINCE 1982



CRT Monitor
15", 17", 18" and 21"



External, External and USB High Speed AMPs
Audio through telephone line



DVD and CD RW Drive



LED Monitor
15", 16", 17" and 19"

1-877-DAYTEK-1
1-877-393-8253

WWW.DAYTEK.CA



21" Monitor for \$749
21" 2160x1440, 240Hz, 1.2ms, 1.2ms, 1.2ms

AIC 1 (800) 461-0079

1 (800) 605-9100

JANET (905) 848-1420

(905) 848-1132 MCA

All Daytek items are sold on a "cash" basis. No returns or exchanges. Please contact us for details.

LETTERS

Watts the real story here

His short note is to point out an error regarding Volt Amps as any competent engineer would recognize.



Fewer supplies are cited in Watts as the maximum real output power, such as can be supplied to any load.

If the load is an absolutely pure resistance, Watts is equal to Volt Amps. As most loads are somewhat reactive, current will lead or lag the voltage by some angle. The out-of-phase component, known as VARs is not real power and we define a power factor less than unity or often as a percentage less than 100.

The real power in Watts is Volt Times Amps times Power factor. Nevertheless, the real rating of a power supply for general loads is Volt Amps as it must be capable of supplying this product for any power factor. It is quite common to have a power supply with Watts rating of say 1,000 and Volt Amp rating 1,100, which simply means that it can supply 1,000 Watts of power to a resistive load and tolerate a reactive load with power factor no lower than 90.9 percent.

Note that a pure reactive load could draw no power at all but with a power factor of zero could blow a power supply of considerable wattage. We cannot manufacture absolutely pure resistive or reactive loads, but these loads can be closely approached. Volt Amp ratings have nothing whatsoever to do with length of time a power supply of adequate wattage can and will fail if Volt Amp rating is exceeded or is rarely done with small induction motors, which may have power factors as low as 80 percent.

Brian W. Smith, Calgary

OW has words more

First, I want to say I enjoy The Computer Paper immensely and wait eagerly for the next issue.

I'd like to draw your attention to a couple of articles in your April edition, by Emma Townsend "Video editing basics" and "Making your own DVDs and HCDs" provided lots of interesting information and some history, but missed out on some very good products.

For example, iMovie, (or its upgrade version iMovieX 3.05) marketed by iSupport is often promoted in the industry

over Adobe Premiere. This software is reliable and very powerful. It is a non-linear video editor which can read and write from miniDV cameras with a FireWire interface.

Its only "disadvantage" is that all the editing is done on the PC after the clips are captured—meaning about 50 GB of hard disk space for a typical 60-minute video. This may seem a small price to pay for the very powerful editing that can be done with all the clips present. In a typical video, I've used as many as five video tracks and five audio tracks in the timeline.

On the subject of making DVDs, Ms. Townsend's article gave us lots of interesting history, but was lacking in details of up-to-date software by Cyberlink, Veritas, and Sonic Solutions. This software is often bundled with the two new DVD drives Pioneer DWR-154 (DVD-RW) and iBook 5220 (DVD-RW). These products advertise a complete solution for creating DVDs. May we have RPI's expert opinions on these players?

Tony Buevis, Kanata

Another solution for big drive access

Hi, I'm writing this in response to the letter you published in the April edition of The Computer Paper about a "Big hard drive headache."

The first thing I would have suggested is that the writer should try manually inputting the drive's parameters in the BIOS setup instead of trying to let the BIOS detect it in the bootup sequence.

I have found that this is always much more accurate and reliable.

If this doesn't work, dynamic disk overlay software—which translates the drive's parameters for a motherboard that is incapable of accessing a large drive properly—is probably a better solution.

A quick check at www.mactory.com in the drive controller section refers to such software.

MaxBlast.exe is Maxtor's solution software for any "drive-size barrier" such as this.

I think this should help and be much less fuss (and risk) than looking for and reformatting a BIOS. Any interruption or glitch in a BIOS flash can render that BIOS chip and therefore the system, unusable.

Graham Wilson

CD limit: We ain't gonna take it

A new tariff is being proposed for 2008 on all recordable media. This tax would be collected and given directly to the record

industry—a governmental subsidy for no apparent societal benefit.

A thought for your readers: The Canadian government, in proposing this levy (RTP), you can thank Sheila Copps for spearheading this. It is effectively gutting the interests of the corporate ahead of the individual.

The individual is treated as a criminal, and fined without prosecution. Imagine if you bought a new car and received a dozen pre-issued speeding tickets along with it. The explanation "Since everyone speeds at some time or other."

Many churches now record sermons onto CD for distribution to parishioners not able to attend services. CAD (copyright-extended designs) fines new transfer files between computers via CD because of the huge sizes involved. Many SMO businesses run daily or weekly data backups using multiple CDs. This levy (read: fine) is inherently unfair and unjust in penalizing people using technology for benign uses.

In the saddest example of this, independent and garage-band level music artists buy blank CDs to record and sell [their music] at their concerts and shows.

The whole premise behind this levy is to "protect Canadian musicians from losses due to audio piracy."

The fine print, however, reveals that the money is not to be paid to the musicians at all but to the copyright holders of the music, which in each case is the record company itself.

So independent artists, in buying blank CDs to distribute and promote their own works, have to first pay a levy to the record company. It's time to stop putting regulations before the individual.

Travis Schneider

Editor's note: We learn more about this proposed tariff, see Supplement, Canada Gazette, Part I, March 5, 2006 (www3.intl.gc.ca/anti/piracy/canada/canada-b.pdf). The proposed levy applied on Page 8 of this document locally \$0.60 on each blank audio cassette, \$0.50 on each CD-R or CD-RW blank, \$1.23 on each audio CD-R or MiniDisc, \$0.87 on recordable DVD blanks, \$0.08 per megabyte for removable memory card including microdrives, \$0.02 per megabyte for non-removable memory incorporated into an MP3 player or other audio device, \$2.1 per gigabyte for non-removable hard drives incorporated into MP3 players and other audio devices. These would be levied against manufacturers or importers; consumers would not be directly assessed. □

Good, Better, Best.

Let your clients choose the rest.



LG's award-winning family of 17" CRT monitors will complement virtually any of your applications.



1-888-LG-CANADA

Visit Us At: www.lg.ca or www.flatron.com

Distributed by:



905-946-9688

www.canadacomputers.com



905-948-1428



416-975-8886

www.gigamax.ca



905-212-7130



905-889-5488

www.pcvillagecanada.com



905-709-6058

www.monitordotcom.com

905-415-9070

070004

Spotlight



Logitech unveils touch-keyboard for Palm PDA's

Logitech (www.logitech.com) has unveiled the KeyCase™—a flexible, thin keyboard handfield created using a unique, lightweight, unimicro-mechanical technology called FlexFoil™—designed for a new generation of PDA's.

According to Logitech's press release, the device's thin, flexible structure accurately mimics the feel of a standard QWERTY keyboard, while the amount of pressure to activate the keys is less than 40 grams. The precise electrical measurement was used to ensure consistent tactile force, which controls the Palm handfield. The FlexFoil™ technology is a fully integrated product to use the foil.

The KeyCase has a standard keyboard, a numeric keypad, and dedicated frequently used Palm tools, as well as several additional gesture buttons. It also has a pressure-sensitive slider for instant image and long documents. The Palm unit attaches to the bottom of the SureFire™ Guide.

The KeyCase is compatible with handhelds running Palm OS 4.0 and 4.1, which includes the Palm OS 4.0, 4.0b, 4.0b2, and 4.0b3 (not available in Canada), as well as future handhelds with the Palm Universal Connector. The keyboard configuration options is compatible with Windows CE, 3.0, 3.5, 4.0, and 4.1, as well as Mac OS 9. It ships with a trial version of Palm OS-based word processor, WordSmith.

The KeyCase has a suggested retail price of US\$29.95, and will be available in U.S., French, and German layouts.

—TSP Staff

ThoughtShare releases e-research toolset

Wincover, B.C.-based ThoughtShare Communications Inc. (www.thoughtshare.com) has launched its first full commercial release, a suite of research tools called Thoughtscape Desktop 3.0. (Its predecessor was a shareware product called Planiflex).

ThoughtShare says the tools will help users organize, collect, and package information in a way that facilitates its presentation, dissemination, and interpretation. According to its developer, Thoughtscape is targeted at knowledge-based organizations—educational institutions, biotechnology companies, and general business enterprises—that want to maximize their information investment by offering a better way to work with a mass of unstructured knowledge.

Improvements over the shareware release include an enhanced user interface, the option of working in outline view, folders for creating PKIX (which can include linked Web pages, files of all types, and personal commentary), and the ability to capture and save Web-based content. The enhancements make it easier to create information PKIX and provide organized lists of information with analysis, says ThoughtShare.

The company has also released Thoughtscape Server—a medium Web-based application that ThoughtShare says allows users to combine Internet and intranet search results, work with information in a variety of formats, package addressed Web and

ACD unveils FotoGlate 2.0

Victoria, B.C.-based ACD Systems Inc. (www.acdsystems.com) has announced the release of FotoGlate 2.0, which lets users create, save, and print layouts of digital images using one of the more than 450 print templates included, or templates they've designed themselves. Users can also edit images, add text, create contact sheets, photo collections, and albums, and save the layouts in standard image formats for sharing online.

Other features new to this version of FotoGlate include a template designer, the option to share customized templates with other FotoGlate users, edge-to-edge borderless printing (where supported by the printer), and faster image display, according to ACD Systems.

FotoGlate 2.0 is available in a plug-in to Adobe's and PictaView 2.0 and as a stand-alone product. It can be downloaded from the company's Web site and is priced at US\$29.95 for the full version, or US\$14.95 to upgrade from FotoGlate 1.0.

—TSP Staff

WHAT'S NEW

NEWSBYTES®
NEWS NETWORK
www.newsbytes.com

24 HOUR NEWS
Internet
Computers
Networking
Telecom
Auto



Spotlight

desktop data for easy viewing from any browser, web content access management and file services. It works in conjunction with Thoughtscape Desktop 3.0. Pricing for Thoughtscape Server varies according to the number of users, ranging from approximately \$50,000 for an organization with 100 users to approximately \$125,000 for 500 users.

Thoughtscape Desktop 3.0 is compatible with Windows 95, 98, NT 4.0 (Service Pack 5 or higher), 2000, and XP. It can be downloaded from the ThoughtShare Web site for the introductory price of US\$29.95 (it can be used 30 times at no cost).

—TSP Staff



All roads lead to speed.

Choose the dedicated Internet access solution that suits your business needs.

The appropriate solution will give your business optimum scalability and speed, as well as an industry-leading Cisco router to suit your access needs. Plus, you'll be connected to the Internet through

AT&T Canada's self-healing OC192 fibre optic network and you'll have the support of our team of highly skilled technicians 24 hours a day, 7 days a week. What's more, every solution is backed by a 99.5% uptime guarantee and a 30-day risk-free guarantee.*

Service	ISDN Internet 64 x 64 Kbps	ADSL Internet up to 8Mbps download up to 1.5 Mbps download	T1 Internet 25.6 Mbps to 1.5 Mbps	E10 Internet** (Symmetric) 3.1 Mbps to 10 Mbps	OC3 Internet approx 155 Mbps
Who should use it?	<ul style="list-style-type: none"> Companies with a small LAN (local area network) or a low-volume Web server 	<ul style="list-style-type: none"> Companies with a small to medium size LAN Businesses that need high speed at a lower price than T1 	<ul style="list-style-type: none"> Companies with greater bandwidth requirements Companies with a medium size LAN 	<ul style="list-style-type: none"> Companies with a medium to large size LAN Companies who need greater speed than T1 connections but do not require OC3 Companies who have extensive Web T1 connections 	<ul style="list-style-type: none"> Larger corporations that require fast and easy access to multiple bandwidths for time-changing website content
Why use it?	<ul style="list-style-type: none"> Can offer an Internet solution Employees on LAN can access the Web and e-mail Industry-standard e-mail or Web servers can be connected to the Internet 	<ul style="list-style-type: none"> Employees access the Web and e-mail Can handle frequent e-mail with large file attachments Can handle frequent e-mail with large file attachments 	<ul style="list-style-type: none"> Handles frequent e-mail with large file attachments Allows videoconferencing applications able to host busy Web or FTP site Supports a large Internet-based Private Network (VPN) 	<ul style="list-style-type: none"> Employees can access the Web and e-mail Can handle e-mail or e-mail servers for attachments Bandwidth supports applications with a 24-hour clock (Web-IT and Internet-based videoconferencing) 	<ul style="list-style-type: none"> Supports a large Web site hosted in-house that experiences fluctuating bandwidth requirements Can be scaled as needs change

Hit the road running with dedicated Internet access from AT&T Canada. Call today and we'll include the monthly access line*, plus all the necessary hardware.

www.attcanada.ca/business

1 888 457-8611



BOUNDLESS

Voice Data Internet E-Business

* Our Internet (Internet) is available where technology permits. Terms and Conditions apply. If this service is to be provided through an AT&T Canada's service, a 30-day risk-free guarantee. Customer subject to change. Refunds will be applied based on usage less service monthly fee (in applicable) before any. Requests for a refund must be made to originating 30 days following the installation of service. For more details, please visit www.attcanada.ca. **Priority access the related with T1 and ADSL service only. AT&T Corp. Local order States. Please quote the following registration code 6307.

Wireless world slowly emerging

As networks roll out across Canada, analysts say services, applications still need to fulfill wireless dream

By Tom Vioreri

The promise of a wireless world, where information and services will be delivered anytime, anywhere by any kind of device, is slowly becoming a reality in Canada.

In mid-February, Bell Mobility (www.bell.ca) began the rollout of its CDMA-based (Code-Division Multiple Access-based) 1X network across Canada. This wireless network is capable of supporting data speeds of up to 144Kbps and delivering 60Kbps on average. In November 2000, Rogers AT&T (www.rogers.com) began to roll out its national high-speed wireless network, which is based on GSM (Global System for Mobile Communications) and GPRS (General Packet Radio Service) standards.

Industry analysts and wireless advocates argue that the deployment of these networks is the necessary cornerstone for a truly wireless world, where useful wireless services are as plentiful and easily

delivered to consumers and businesses as are today's land-wired services.

Pierre Blouin, president and chief executive of Bell Mobility in Toronto suggests that the next wave of wireless services will focus on improved communications for e-commerce.

"Our next step is to move to portable applications," Blouin says. "As an example, a pizza delivery guy comes to your house and tells you that the pizza you ordered is 510°. You will soon be able to use your digital cell phone to send a payment for that pizza and get a confirmation that your payment has been accepted. If you are in a cab, you won't have to worry about carrying cash. You will be able to pay for the fare through your digital cell phone."

Blouin says business users will have better access not only to email, but to corporate intranets, faxing, and filing services, and any number of personal productivity and communications applications.

"Business [wireless services] is a seg-

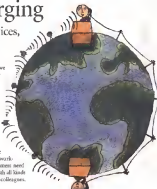
ment where we expect to see very strong growth," says Charlotte Baskie, vice-president of convergence with Bell Mobility in Toronto. "It is not just going to be among the road warriors, but across the entire mobile workforce. These customers need to stay in touch with all kinds of information colleagues and customers."

Building the wireless world

Several wireless services are available to business customers using either of the two high-speed wireless networks. Veriwave, B.C.-based Veriwave Software Ltd. (www.veriwave.com) Motivus Wireless Desktop is a service

offered on Bell Mobility's 1X network. It allows those with Palm handhelds or other wireless devices to access files, email, calendars, and contact lists on

Continued on page 18



Wireless technology illustrated

By Joanna Gravit

Imagine you are charged with introducing casual readers to a technology as wide-ranging that it's to blame for telephones, the Internet, cable television—the mass media itself, in fact. Pretty important stuff. Stuff people should care about, right? Well, as Preston Gralla points out in his introduction to *How Wireless Works*, wireless technology is so complex can seem like magic to most mortals.

So, how do you bring it down to their level, make it comprehensible but even more than that, make it fun? The editors at Que Publishing have found an answer: cartoons and lots of them.

Like previous entries in Que's *How It Works* series, this 232-page book breaks down the wireless world using Starling,

full-color charts, diagrams, and illustrations. Sections covering such key wireless technologies as radio and television, cell phones and pagers, wireless networks, and the Internet first get a general introduction, followed by cut-away diagrams that take readers inside the machines that run their lives. Finally, a flow-chart-style illustration puts it all together.

Throughout, Gralla does a decent job of explaining the jargon and intricacies of the wireless field, with chapters building on each other: casual browsers may find themselves backtracking to previous chapters to learn the terminology. Gralla also makes some attempt to lighten the technological load with periodic "whiners tid-bit" boxes that offer trivia and fun facts.

If there is any slumping, it's in the historical evolution of wireless technologies. Except for a brief throwaway reference to

Guglielmo Marconi in the introduction, no attempt is made to place the devices mentioned in any sort of historical perspective. While this book is not attempting a historical overview, a bit of background here and there might have been nice.

Overall, though, it does its job well. Included are technologies that are just emerging—or at least just being commercialized—such as Bluetooth, XML (extensible markup language), WAP (wireless access protocol), and 3G networks.

Technical readers will enjoy the well-organized flow chart illustrations and meticulous attention to detail, while non-technical readers will love the cartoons that look inside televisions, cell phones and PDAs. The book covers all the information bases with both a glossary and an index to help readers find out where they want to go. **Q**



How Wireless Works

Author: Preston Gralla

Que Publishing (www.quepublishing.com)

Paperback, 232 pages, 2000

ISBN 0-7897-2457-2

Price \$44.95

VIF Internet

The Internet simplified

14.95\$ ^{per} month

Unlimited Access

With yearly membership payable on activation

9.95\$ ^{per} month
15hrs per month

+75 each additional hour

19.95\$ ^{per} month
Unlimited Access

Monthly billing

Each subscription includes:

- No activation fee
- All inclusive membership with: 5Mb Web Site, 6 e-mail accounts
- Fast connection, news, voicemail, MP3
- Blazing fast 56k X2 V90 lines
- No busy signal
- Fully digital network
- Friendly technical support
- Service bilingual

Web Hosting starting at 9.95\$ per month

Domain names registration : 15.00\$

Residential High Speed Access

Commercial High Speed Access



Call now and get

***connected
in 5 minutes!***

1-888-321-3737

514-353-9988

Come visit our web site <http://www.vif.com>

Montreal - Quebec - Hull - Ottawa - Toronto



On Your Marks, GET...

CELEDY DRAW

Design + Publishing + Draw +

FREE
TRIAL Download
Introductory
Offer

Now Only **\$59.99**
Compared to
competitor software at over
\$100. Limited Time Offer

CELEDYDRAW is an all-in-one program for creating & publishing, as well as actually using a laptop (or a good old PC) to create & publish your work.



CELEDYDRAW, the First Draw and Publishing software designed for businesses and home users, is now available. CELEDYDRAW offers new extensive features as well as intuitive interface that make it easier to learn and use.

All-IN-ONE Software has finally arrived!
Affordable / Easy to Use / Powerful / Export to Web!

**MANY
TEXT EFFECTS**

PUBLISHING

DRAW

SUCH AS:

BLEND SHADOW



With CELEDYDRAW, you can DRAW with the most comprehensive set of tools such as Bézier curve, freestyle, polygon and auto shapes, as well as edit with powerful operations such as transform, group, combine, intersect, etc. The many special design effects together with a wide selection of object fillings and a long list of editing tools allow you to create efficiently and uniquely.

CELEDYDRAW is very strong in PUBLISHING design. You can quickly create text frames of rectangles or any other shapes, flow text from frame to frame and cross pages with direct typing or importing. You can also format text with total control and wrap text around any shapes. Artistic text with effects, text on path, text box and table features can make your documents professional looking.



< WIRELESS GROWS UP >

Wireless devices coming your way

By Jeff Evans

Want to go wireless? Browse the Net while you walk the dog, do email in the mall, read and write Microsoft Office files on the bus, download music and video, all on a portable, wireless device? Well, in the first quarter of 2002, Canadians saw a flood of new wireless data products and services that, taken together, seem to mark a major

Continued on page 23



Wireless all-in-one devices: Motorola R100 (left), IBM Wireless S400, and Handspring Treo 100.

FREE TRIAL Download NOW www.celedy.com
or Call to order NOW at 416-496-8989



GIGABYTE
TECHNOLOGY

LAN

Dual BIOS™

ATA133 RAID

USB 2.0

DDR333+

7VRXP^{KT333} Motherboard

The Power for Speed

Full new design for AMD Athlon™ XP processor

GA-7VRXP MA K8M462MA02 Chipset

- Socket A for AMD Athlon™/Duron™/Sempron™ processors
- Dual channel DDR SDRAM memory support
- 8 SATA ports in RAID/IDE mode operation
- Internal SATA RAID 0/1 support
- Ethernet 10/100M LAN controller
- High-Speed USB 2.0 Standard 12-channel support
- 80 Pin IDE ribbon

GIGABYTE patented DualBIOS™ Technology

One BIOS module in two locations. One backup BIOS module in the other location. In case of BIOS corruption, the system will automatically boot from the backup BIOS module. No need to replace BIOS module.



Telco, Telnet

GA-8IRXP Intel® 845 Chipset

- Socket 478 for Intel® Pentium® 4 / Celeron® processors
- Front Side Bus (FSB) supporting 800 MHz / 533 MHz
- Front side bus (FSB) 100 MHz / 66 MHz
- 4 SATA ports in RAID/IDE mode operation
- GIGABYTE patented DualBIOS™ Technology
- High-Speed USB 2.0 Standard 12-channel support
- 80 Pin IDE ribbon
- 80 Pin IDE ribbon
- 80 Pin IDE ribbon



Telco, Telnet

GA-8IRXP Intel® 845 Chipset

- Socket 478 for Intel® Pentium® 4 / Celeron® processors
- Front Side Bus (FSB) supporting 800 MHz / 533 MHz
- Front side bus (FSB) 100 MHz / 66 MHz
- 4 SATA ports in RAID/IDE mode operation
- GIGABYTE patented DualBIOS™ Technology
- High-Speed USB 2.0 Standard 12-channel support
- 80 Pin IDE ribbon
- 80 Pin IDE ribbon
- 80 Pin IDE ribbon

Telco, Telnet



For more information, please call our distributor



PE Taiwan
Tel: 886-2-2707-1077 Fax: 886-2-2707-1078
PE Hong Kong
Tel: 852-2511-1234 Fax: 852-2511-1235
PE Singapore
Tel: 65-6336-7333 Fax: 65-6336-7334
PE Malaysia
Tel: 603-251-1234 Fax: 603-251-1235



Supercom Taiwan
Tel: 886-4-231-1111 Fax: 886-4-231-1112
Supercom Hong Kong
Tel: 852-2511-1234 Fax: 852-2511-1235
Supercom Singapore
Tel: 65-6336-7333 Fax: 65-6336-7334



GIGABYTE™
TECHNOLOGY

www.gigabyte.com.tw

The just-add-water approach to web site construction.

go

Introducing SmartWeb. A network-based solution to creating your company's web site.

Only
\$99⁹⁹
 per month

To order, call 1-877-474-BESS or
 visit us at www.bell.ca/webeasy



Having a web site has more or less become part of the price of doing business. But it doesn't have to be a big price. Or a big headache. The SmartWeb solution from Bell makes it easy for you to create your own professional company web site for only \$99.99 per month with no set-up costs.

You can do it. There's nothing to download and nothing to install. Just access the application on the web, choose the template you like, click using the tools provided and your web site is up and running. And you can revise and update the site as often as you want at no extra cost.

We can help. We provide one free hour of site development assistance by phone. And we stay with you for the long run with a toll-free technical help desk. What's more, we'll let your customers know about your web site by registering it on yellowpages.ca and bell.ca so customers can find you fast.

Wireless Access Points

Linksys WUP11
802.11b (11M) wireless access point
\$263

Linksys WUP1154
802.11b (11M) WAP & 4 port switch/router
\$283

D-Link Wireless LAN 1280
802.11b (11M) wireless card
\$250

ATI Radeon 8500

AGP 4x Graphics Card
64 Meg DDR RAM

Refurb Version
\$274

Refurb 7500 95A
\$146

Maxtor Hard Drives

Maxtor 7402-6L 80 GB
7200 RPM ATA133
\$219

Maxtor 40 GB
7200 RPM ATA133
\$134

VisionTek Xtasy

GeForce 4 44000 Graphics Card
128 meg DDR w. VGA, DVI-1 & SVideo
\$445

Very GeForce 4 4400 128meg DDR \$699
MSI GeForce 4 4440 64meg DDR, TV out \$382

Wireless Network Cards

Recent Wireless 11MB G44
PCMCIA 802.11b (11M) wireless card
\$184

D-Link Wireless LAN 11MB
PCMCIA 802.11b (11M) wireless card
\$143

Linksys Wireless Compact Flash Card
Compact Flash Type I 802.11b (11M) wireless card
\$182

Soltek Motherboards

Soltek SL-750B4 Purple Ray
KAT586 Socket A, DDR Support, Audio, IDE133
\$154

Soltek SL-750B5 Purple Ray
VA K7333 Socket A, 233MHz Support, Audio, ATA133
\$189

Soltek SL-850B4 / Platform 4 068
Socket K7S, 266M, Audio, L2 4MB
\$163

Athlon Processors

Socket A, 266 FSB CEM
\$1700+ 1.6 GHz
\$280

Socket A, 266 FSB CEM
\$1700+ 1.6 GHz
\$377

Socket A, 266 FSB CEM
\$1700+ 1.6 GHz
\$377

Intel Pentium 4

Socket 478 Processors (Retail Box)
P4 1.6 GHz 400MHz
\$239

Socket 478 Processors (Retail Box)
P4 1.8 GHz 400MHz
\$333

Celeron 500 MHz 100MHz Socket 370 \$249

US Robotics

Cable/DSL, NAT Router
w. 4 port switch & port server
\$99

Palm Keyboard

for Palm OS, VxI and M100 Models
\$33

Motherboards

Gigabyte GA-7VSP Socket A K7333
KAT586, DDR Support, Audio, IDE133
\$209

ASUS P4 8332 S4848 Chipset
233MHz, Socket K7S, Audio, ATA133
\$173

Elite Group SCS K733A Socket A
266, 266M, 4MB cache, Audio, IDE133
\$92

Athlon CPU Bundle

Includes: AMD Athlon XP1800+ Processor
EC5 K735A S15735 Motherboard with
ATA100 support / Audio / LAN, and
Thermastatic Voltage & Copper Cooler
\$300

NEC 1530V

15" TFT LCD Monitor
Refurbished, with 1 year
monitor/warranty warranty
\$418

Easy CD Creator 5

Platinum Edition Boxed
\$95

Standard Thrift Audio \$65
DMG PC Games \$85
DMG VCD Data Auto-CD \$40
DMG VideoBox Auto-CD \$99

CD-Rom Burners

Maxtor 24x12x48x
IDE Bus Parallel CD/RW with Software
\$240

LG 32x12x48x
IDE Bus Parallel CD/RW with Software
\$149

Lite-On 32x12x48x
IDE Bus Parallel CD/RW with Software
\$149

Memory

333MHz 2700 DDR
Genetic 256 meg RAM
\$300

We stock Corsair, Crucial, Micron, and Samsung RAM

Creative Audigy

Sound Card
SB0050 24-bit sound card
with 16bit/192KHz (96dB)
\$105

Audigy 3-Game Retail \$245
Audigy 4-Game Retail \$245
Creative SoundBlaster LIVE 05.1.00 \$99

WE HAVE: HP, Dell, IBM, Compaq, Gateway, Acer, Samsung, LG, and many more!

\$19 Domain Registration!

www.GOTOECOM.com

FREE Web Hosting
255 e-mail accounts & 100 MB web space
BASIC VALUE PLAN - \$5.95/month
Some services are not included in this plan
access, SSL access, site stats & PageRank 2k etc.

Toll Free: 1-888-862-8888
Vancouver: 604-451-6662
Calgary: 404-451-8511
Web: www.ncix.com

Service Email: order@ncix.com
General Email: info@ncix.com
Support Email: support@ncix.com

Sign up to our weekly email list and SAVE!
Receive weekly special offers in your e-mail by
registering @ www.ncix.com/subscribe/newsletter

Stock, Support, Order Refund and Shipping fees (P&H)
Mon to Fri: 9:30 AM to 6:30 PM, Sat: 10:00 AM to 5:00 PM, Closed Sundays and holidays.
Refund: Customer Inc. 1848 Kingsway, Burnaby BC V5C 2C1, Canada
All prices in Canadian funds. MAY 2002 MAY 2002
PRICES SUBJECT TO CHANGE WITHOUT NOTICE. STOCK SUBJECT TO AVAILABILITY



NCIX.com
One Stop Internet Computer Store

The Internet should always **look** this good!

home internet

Save \$76 \$199 Annual Unlimited Plan

Save almost 30%. Prepay \$199 and your monthly rate will be less than \$17/month. Save money and enjoy a full year of service without the hassle of a monthly bill.

Save \$39 Unlimited Buy-the-Month \$9.95 for first 3 months

Subscribe on a monthly basis and Look will offer you the first 3 months for only \$9.95/month.

Refer a friend: Receive 1 month FREE Access!

For each friend, family member, or colleague you refer to Look, you'll get a free month's credit on your Internet account. Visit us online at www.look.ca for more details. (up to \$22.95 per referral).

Sign up online and get more SAVINGS!

Sign up online at www.look.ca/home and Look will offer you the first 4 months at \$9.95!

5 e-mail addresses

Personalized email addresses for the whole family!

10 MB of personal web space

Perfect for posting up your new web page

7 days a week technical support

Need help? Our friendly staff will show you how to get online

ChildGuard Parental Filter

Protects your children each time they access the Internet



NO set up fee - PLUS -

15 Day Money Back Guarantee!



Sign-up TODAY!
www.look.ca/home
1-800-356-5665

Offer ends April 30, 2001. Valid for new subscribers only. A credit card is required for account activation. The first 4 months (plus any promotional money) of the cost of 12 months of Look's unlimited service, plus \$22.95. Look's offers and services are subject to our terms and conditions, including acceptable use and privacy policies, which can be found at www.look.ca. Available in select areas. Certain conditions may apply.

Services will drive 3G

But what will consumers want to do on their advanced cell phones?

By Geoff Wheeler/Editor

Mobile phones stopped being just simple devices for "anytime, anywhere" conversations a few years ago. The modern mobile phone also typically includes built-in text mes-

saging, a text-based Wireless Application Protocol (WAP) Web browser, send and receive email functions, and voicemail.

In short, the mobile phone industry has reached a point where you can count on a certain degree of minimum functionality. Mobile phones are, however, nowhere near reaching their full



Mobile phone maker Samsung's version of MS devices and services.



Eliguent's version of UC include faster version Web surfing in colour and multimedia services, such as e-mailing images from a mobile phone handset.

[illegible]

Get the best of
www.canadacomputes.com
every week in your inbox!

If you haven't already, sign up today
FOR YOUR CHANCE TO WIN!



Motorola shows multifunction 3G phones

MILAN, Italy—What do you call a device that allows you to send and receive email, make videoconference calls, send data at high speeds, play digital video and audio files, and run Java applications? It sounds like a desktop computer, but it's actually the latest in mobile phones from Motorola (www.motorola.com).

The company unveiled something it calls the AR20 at a conference here in mid-February. It's a mobile phone with a colour screen that includes all kinds of extra goodies and is designed to take advantage of the huge wireless data bandwidth that will come with the implementation of third-generation (3G) mobile phone networks, such as EDGE and UMTS. These data rates will support up to 540kps upstream and—more importantly—384kps downstream. That's almost seven times the rates you currently get on a standard dial-up connection.



Motorola's AR20

The AR20, which will not be available in Canada until the 3G networks on which it operates are up and running (expected to be either late this year or early next year), is also designed to eliminate pocket clutter. Rather than having to carry a Minidisc Camcorder, MP3 player, handheld computer, and a phone, this device supports all those functions.

It also incorporates Bluetooth, so you can use the AR20 as a wireless modem for

your notebook computer or talk "hands-free" using a wireless Bluetooth headset. Pricing for the AR20 had not been set at press time, though it is likely to be at the high end.

Another noteworthy release at the event was Motorola's A388, a combination handheld computer and PDA. While this monochrome device is nowhere near as ground breaking as the AR20, it is an intriguing gadget for several reasons.

To start with, it uses an operating system of Motorola's own design, rather than Palm, Symbian, or a version of Microsoft Pocket PC/Windows CE. The upside of this is that Motorola doesn't have to rebuild someone else's OS onto its hardware design.

The A388 provides support for J2ME (Java 2 Mobile Edition) so you can not only run Java applications, you can write applications that will run on the device

(something Motorola hopes a lot of corporate customers will want to do). It includes software for email, handwriting recognition (not Graffiti-based, by the way), instant messaging, faxing, and Net access. Pricing has not been announced and will likely depend on the carriers offering these devices.

Alongside the unveiling of these phones, Motorola conducted a tour of its Milan design centre, where the company makes good on the notion that phones today are as much about fashion as they are about technology. Several technology demonstrations showed off research that the company has conducted toward the use of mobile phone as a "life manager" that would know by location—and time of day—how best to help you accomplish whatever you happened to be doing at that time.

—Geoff Wheeler/IC

WWW.ATOPONLINE.com

An Online Store You Can Trust

(604)930-4840

Founded in British Columbia Since 1997

<h3>SONNAM</h3> <p>Phone: (416) 598-0557 Fax: (416) 598-2150 www.sonnams.com 457 Spadina Avenue (North of College St)</p>		<h3>COMPUTER DEPOT</h3> <p>800-468-1681 Fax: 800-468-1682 www.computerdepot.com 140 Dundas Street East, Suite 100, Toronto, Ontario M5G 1C5</p>	
<h4>Clearance PC-140</h4> <p>Intel Pentium III 450MHz 64MB RAM 10GB Hard Drive 15" Monitor Keyboard & Mouse Windows 98 \$149.99</p>	<h4>Clearance System</h4> <p>Intel Pentium III 450MHz 64MB RAM 10GB Hard Drive 15" Monitor Keyboard & Mouse Windows 98 \$149.99</p>	<h4>Intel Celeron System</h4> <p>Intel Celeron 300MHz 64MB RAM 10GB Hard Drive 15" Monitor Keyboard & Mouse Windows 98 \$149.99</p>	<h4>Powerful Intel P4B System</h4> <p>Intel Pentium 4 1.5GHz 1GB RAM 10GB Hard Drive 15" Monitor Keyboard & Mouse Windows XP \$149.99</p>
<h4>AMD XP System</h4> <p>AMD Athlon XP 1.2GHz 1GB RAM 10GB Hard Drive 15" Monitor Keyboard & Mouse Windows XP \$149.99</p>	<h4>Feature 4.0 System</h4> <p>Intel Pentium 4 1.5GHz 1GB RAM 10GB Hard Drive 15" Monitor Keyboard & Mouse Windows XP \$149.99</p>	<h4>Weekly Special</h4> <p>Intel Pentium III 450MHz 64MB RAM 10GB Hard Drive 15" Monitor Keyboard & Mouse Windows 98 \$149.99</p>	

Reliable, affordable web hosting. We make no compromises. Netfirms offers the easiest way to get your website online. Instant activation. No hidden fees. Visit Netfirms.ca today!

WWW



FREE NetObjects®
Webdesign Software



hosting plans

PLANS

\$0.00

- Diskspace: 500MB
- Monthly Transfer: 2GB
- 2 WebMail Accounts
- POP Mail
- MS Frontpage Exts.
- Perl/CGI/SSI/PHP
- Free Netfirms URL

more

ADVANTAGE

\$1.99

- Diskspace: 100MB
- Monthly Transfer: 4GB
- 10 WebMail Accounts
- POP Mail
- MS Frontpage Exts.
- Perl/CGI/SSI/PHP
- Free Netfirms URL

more

MS Business

\$1.99

- Diskspace: 200MB
- Monthly Transfer: 6GB
- 20 WebMail Accounts
- POP Mail
- MS Frontpage Exts.
- Perl/CGI/SSI/PHP
- Free Netfirms URL

more

Web Hosting
from
\$0.00
month

FREE HOSTING



www.netfirms.ca



netfirms

Web Hosting Made Easy.

➤ **Contact Us:** 416-661-2100 • info@netfirms.ca • www.netfirms.ca

FREE

\$0.00

- Diskspace: 25MB
- Monthly Transfer: 1GB
- 1 WebMail Account
- MS Frontpage Exts.
- Perl/CGI/SSI
- Free Netfirms URL

more

Netfirms is a registered trademark of Netfirms Inc. All other trademarks are the property of their respective owners. © 2002 Netfirms Inc. All rights reserved. Netfirms Inc. is a registered trademark of Netfirms Inc. All other trademarks are the property of their respective owners. © 2002 Netfirms Inc. All rights reserved. Netfirms Inc. is a registered trademark of Netfirms Inc. All other trademarks are the property of their respective owners. © 2002 Netfirms Inc. All rights reserved.



TOMKEN TECHNOLOGIES CORPORATION

COMPUTER PRODUCTS DISTRIBUTION

Unit # 8 - 10, 991 Matheson Blvd. East, Miss., Ont., L4W 2V3

Tel: (905)625 9889

WWW: <http://www.tomkencomputers.com>

Fax: (905)625 7280

Email: peterh@tomkencomputers.com

Hi-End Power Supply in all our Cases !!!

 <p>Aluminium Cases</p> <p>ATX 436 / 300W Front USB / FireWire Audio Port</p> <p>NEW!!! 3x300W 400W 500W</p>	 <p>SERVER CASE</p> <p>ATX 80XL 350W 400W Front USB Front Mic / Audio Port</p> <p>ATX A1ES 420W / 4 Bays / White / Silver / B</p>	 <p>Workstation Cases</p> <p>ATX 996K - P3 / P4 320 W Extra Fan on Side Panel (Optional)</p> <p>ATX P50 P3/P4 320W</p>
---	---	--

 <p>SPEAKER & MICROPHONE</p> <p>NEW!!! PM PD 1650W Stereo Speaker CSA Approved</p>	 <p>SYSTEM NO SOLUTIONS</p> <p>UMAX 600 X 1200 dpi 42 bit High Quality Scanner</p> <p>Intel Play ME2CAM Video Camera 640 x 480 cpi</p> <p>2 Ports USB PCI Card</p>	 <p>Rack Mount</p> <p>1U / 2U / 4U</p>	 <p>Workstation Cases</p> <p>ATX 818K P4 320W 438 Port Extra Fan on Side Panel</p> <p>ATX 818K P4 300W Front USB</p>
---	--	--	--

 <p>PC MONITORS</p> <p>FLAT 15" 17" 19" 21" & LCD We Carry RGB / Samsung / Viewsonic High Quality Monitors Please Call to Check It!</p>	 <p>USED MONITOR & SYSTEM (various brands)</p> <p>15", 17" 19", 20" 21" Refurb Monitor High Quality (300 MHz - 350 MHz)</p>	 <p>CABLE/SYSTEM FAN & PC ACCESSORIES</p> <p>NEW!!! We Carry all PC / System PC Accessories Please CALL to Check</p> <p>Volume Fan support AMD 1.50 or Above</p>	 <p>LAN/INTERNET SOLUTION</p> <p>• 5/6 Ports 10BaseT Hub • 5/6/10/24 10/100 Base T Hub / Switch / Router</p>
--	---	--	--

 <p>CPU/MEMORY</p> <p>Intel Pentium 4 / Pentium 3 Celeron AMD DURON / ALIBION THUNDER BIRD</p> <p>DDR We Carry All Brands of CPU Please CALL to check It!</p>	 <p>PC HARD DRIVE</p> <p>We Carry Western Western Digital Seagate ATA100/120</p> <p>INTERNAL 2VD 4200RPM</p> <p>MSL200 2 1/2" 1.5" Bayware 40000/60000</p>	 <p>Refurbish Notebook Computers</p> <p>Dell / IBM / Toshiba / KDS / etc ... P2 - P3 (233 Mhz - 700Mhz)</p>	 <p>We carry all brand products for your need</p> <p>Graphics Sound Mouse Keyboard Scanner Printer Fax Modem Webcam Digital Camera Digital Video Digital Audio Digital Storage Digital Peripherals Digital Accessories Digital Software Digital Services Digital Support Digital Training Digital Consulting Digital Integration Digital Migration Digital Upgrade Digital Replacement Digital Repair Digital Maintenance Digital Troubleshooting Digital Diagnostics Digital Calibration Digital Testing Digital Certification Digital Accreditation Digital Registration Digital Licensing Digital Insurance Digital Warranty Digital Guarantee Digital Refund Digital Return Digital Exchange Digital Trade-In Digital Buy-Back Digital Leasing Digital Financing Digital Rental Digital Purchase Digital Sale Digital Distribution Digital Wholesale Digital Retail Digital Direct Digital Indirect Digital Online Digital Offline Digital Hybrid Digital Multi-Channel Digital Multi-Platform Digital Multi-Device Digital Multi-User Digital Multi-Role Digital Multi-Function Digital Multi-Purpose Digital Multi-Task Digital Multi-Step Digital Multi-Phase Digital Multi-Stage Digital Multi-Step Digital Multi-Phase Digital Multi-Stage</p>
---	---	--	--

THE BEST BUY, TOMKEN OFFERS

(Dealers Only)



MSI Products Most Awarded by Computer Professionals



Motherboard



KT3 Ultra-ARU Socket 478 Intel® Celeron

- Supports AMD® Duron™ / Athlon™ / Athlon™ XP 600MHz ~ 2100+ processor or up
- PSB 266/266MHz
- 3 DDR DIMM up to 3GB memory
- 5 PCI, 1 AGP, 1 CNR
- 8 USB ports (4x USB 2.0, 4 x USB 1.1)
- Supports LSI® BIOS™ Active Drive™
- Supports Promise ATA 133 RAID 0/1
- Supports 6-channel audio



845 Ultra-ARU Socket 478 Intel® Celeron

- Supports Intel® 478-pin Pentium® 4 L4+ 2.2 GHz Processor and faster
- PSB 400MHz
- 3 184-pin DDR DIMM up to 2GB memory
- 5 PCI, 1 AGP, 1 CNR
- 4 USB ports
- C-Media CMI8738 PCI 6-channel H/W audio
- Supports USB 2.0 & ATA 133 RAID 0/1
- Supports Smart Key™ / D-Bracket™ / Live BIOS™ / PC Alert™ / Fuzzy Logic™ 3



745 Ultra Socket 478 Intel® Celeron

- Supports AMD® Duron™ / Athlon™ / Athlon™ XP 600MHz ~ 2100+ processor or up
- PSB 266/266MHz
- 3 DDR DIMM up to 3GB memory
- 5 PCI, 1 AGP, 1 CNR
- 4 USB ports
- Supports Ultra ATA 800
- ACS/ Controller Integrated
- Supports Live Driver™ / Live BIOS™ / Fuzzy Logic™ 3 / D-Bracket™
- 2 on-board IEEE1394 ports (optional)



645 Ultra Socket 478 Intel® Celeron

- Supports Intel® 478-pin Pentium® 4 L4+ 2.2 GHz Processor and faster
- PSB 400MHz
- 3 DDR DIMM up to 2GB memory
- 5 PCI, 1 AGP, 1 CNR
- 4 USB ports
- Supports Ultra ATA133
- Supports Smart Key™ / D-Bracket™ / Live BIOS™ / PC Alert™ / Fuzzy Logic™ 3

Barebone



HESTIA 845SD

- 400MHz PSB, Intel Pentium® 4 processor up to 2 GHz
- Support Ultra DMA 66/100, 2 PCI33 DIMM, Maximum 2GB SDRAM
- Micro ATX Form Factor, 4 USB, AC97, 2 PS/2, Parallel, Serial, Game
- MSI Low-Profile MX-100 32 MB High Performance Video Card included
- Integrated Intel 133/100 Ethernet

3D Graphics Card



64TI4600-VTD

- NVIDIA GeForce 4 Ti4600 Chipset
- 4x AGP, 128MB DDR SDRAM
- 300MHz Core Clock
- Supports Video-in, TV-out, DVI-D
- Intervideo® WinCoder™ v2.0 Intersvideo WinProducer™ v2.0
- MSI DVD Player™ / MSI Live Update Series / MSI VGA Driver
- MSI 3D Turbo Experience
- Supreme 3D Games: No One Lives Forever, Aquaman, Secretive Plus 7 in 1 Games Collection



MSI Authorized Distributor in Canada:



MSI Computer Corp.
www.msi.com

MSI Computer Corp.

A printer that can keep up with you.

E210 Laser | 12 ppm | \$299.00*



All of the robust features of an office laser printer now come with a stay-at-home price—built for value and reliability, the E210 mono laser has a straight-through paper path which means virtually jam-free printing on a wide variety of media — from thick business cards to overhead transparencies.

LEXMARK
Passion for printing.™

Computer Systems Centre



CWP Solutions

CompuSmart

Computer Warehouse

CSC
275 College Street
(416) 827-8860

CWP Solutions
1-276 Rexa Park Drive
(905) 477-6757
1-800-387-8273

CompuSmart
151 Yonge Street
(416) 564-6444

Computer Warehouse
1501 Warden Avenue, Unit 101
(905) 477-8081

*Limited time offer at participating stores; street price may vary.
© Lexmark Canada, 2002. Lexmark and Passion for printing.™ are trademarks of Lexmark International, Inc., registered in the U.S. and/or other countries.

< WIRELESS GROWS UP >

Go go gadget car!

Continued from page 33



The dashboard of Pontiac's info-friendly Vibe (center) has a two-prong outlet (top) and DVD-based navigation system.

going. A fairly detailed map—down to the street level—is included. In theory, you enter your starting point and your destination and the system will give you audio cues along the way to ensure you're going the right way ("Turn right in 200 meters" type of thing).

Because this navigation system doesn't actually use GPS (global positioning system), and needs calibration by intersection and direction, it's fairly easy to throw it off course. All you have to do is spin your wheels on the ice or skid sideways, and you have to recalibrate it. And if someone moonwalks with the calibration (an overzealous child, for example), it will report things that aren't utterly silly—for the beginning of our journey north out of Toronto, it claimed we were heading southwest out of Quebec into New York state. After we straggled a calibration in Port Carling, Ont., we got it a

Continued on page 36

Fast.Easy.Reliable...

...Web Hosting. 2 MONTHS FREE!*

Web Hosting Solutions

- Flexible hosting plans
- Prices starting at a low \$16.15/month*
- Same day activation
- Manage your own account
- No set up fees!
- Free Webmail and Spam Filter

E-Commerce Solutions

- Basic storefronts to advanced MVA™ shopping cart solutions
- Prices as low as \$20.78 a month*

Virtual Managed Servers

- Manage 20 to 100 domains starting at \$166.95/month*
- Perfect Reseller Solution!

**Planet
Velocity**

Domain Registration & Renewal

Need to register or renew your domain?
With PlanetVelocity you get great service
at an affordable price!

.com .net .org	\$18.95/yr
.ca	\$29.95/yr
.info .biz	\$24.95/yr (2 yr min)
.tv .cc .uk	also available

Free Domain Parking!

PlanetVelocity Intranet

File sharing, collaboration, discussions, group
calendar, access with your Web enabled PDA
or mobile phone. 30 Day Free Trial.
intranet.planetvelocity.com

Super Tools!

- 24 hour Support
- Easy Control Panel (HOTT!)
- WebMail (web-based email)
- PHP and MySQL
- MS Access
- Perl
- Microsoft® Frontpage Support
- CGI-Bin and Scripts included
- ColdFusion
- ASP
- Ad Manager
- Seamless Linux/Windows
Integration
- Free SSL
- Real Audio/Video support
- ECommerce Shopping Carts
- Java Applets
- Multiple Daily Backups
- OC-192 Backbone Connection

CALL TODAY **1-866-9WE-HOST**
SIGN-UP ONLINE **www.PlanetVelocity.ca**

* with the purchase of any annual hosting plan. Call or see website for complete details.



You've been waiting for is Finally Here!

ANGEL 2600 GIGANOTE

- 15" TFT Active Matrix LCD (800x600)
- Intel Pentium 4 1.7 GHz, Up to 3.0 GHz
- 256 MB SDRAM Upgradeable to 1 GB
- Upgrade to 1 GB RAM
- 20.0 GB Hard Drive, Upgradeable to 80 GB
- 24x48x160 Video (15" x 15" x 16")
- 8x DVD ROM Upgradeable to 16x48x160 Video (15" x 15" x 16")
- Build-in 56K Modem & 10/100 Ethernet LAN (optional)
- Web TV Webcam (2M)
- Sound Blaster Live! Compatible 3D Enhanced Sound with 5.1 Surround
- 2x FireWire TV Out, FireWire, USB, FireWire
- Windows XP Home, XP Professional, XP Media Center

Pentium 4 Notebook



Intel Pentium 4 Processor

1.7 GHz Pentium 4 Processor

FREE UPGRADE TO P4 1.7G

Intel Pentium 4 Processor 1.7 GHz

\$2,999

Includes 1GB RAM



Visit Our Showroom to See the 1st Canadian Built P4 Notebook!



ANGEL 9200 POWERNOTE

- 15.1" TFT Active Matrix LCD (800x600)
- Intel Pentium 4 1.7 GHz, Up to 3.0 GHz
- 256 MB SDRAM Upgradeable to 1 GB
- 20.0 GB Hard Drive, Upgradeable to 80 GB
- 24x48x160 Video (15" x 15" x 16")
- 8x DVD ROM Upgradeable to 16x48x160 Video (15" x 15" x 16")
- Build-in 56K Modem & 10/100 Ethernet LAN (optional)
- Web TV Webcam (2M)
- Sound Blaster Live! Compatible 3D Enhanced Sound with 5.1 Surround
- 2x FireWire TV Out, FireWire, USB, FireWire
- Windows XP Home, XP Professional, XP Media Center

Special upgrade to 3.0 GHz Pentium 4 1.7 GHz

\$1,799

Includes 1GB RAM

FREE UPGRADE TO 3.0 GHz Pentium 4 1.7 GHz

\$2,099

Includes 1GB RAM



ANGEL 2400 SUPERNOTE

- 15.1" TFT Active Matrix LCD (800x600)
- Intel Pentium 4 1.7 GHz, Up to 3.0 GHz
- 256 MB SDRAM Upgradeable to 1 GB
- 20.0 GB Hard Drive, Upgradeable to 80 GB
- 24x48x160 Video (15" x 15" x 16")
- 8x DVD ROM Upgradeable to 16x48x160 Video (15" x 15" x 16")
- Build-in 56K Modem & 10/100 Ethernet LAN (optional)
- Web TV Webcam (2M)
- Sound Blaster Live! Compatible 3D Enhanced Sound with 5.1 Surround
- 2x FireWire TV Out, FireWire, USB, FireWire
- Windows XP Home, XP Professional, XP Media Center

Special upgrade to 3.0 GHz Pentium 4 1.7 GHz

\$2,599

Includes 1GB RAM

FREE UPGRADE TO 3.0 GHz Pentium 4 1.7 GHz

\$2,899

Includes 1GB RAM



ANGEL 3500 LCD PC

- 15.1" TFT Active Matrix LCD (800x600)
- Intel Pentium 4 1.7 GHz, Up to 3.0 GHz
- 256 MB SDRAM Upgradeable to 1 GB
- 20.0 GB Hard Drive, Upgradeable to 80 GB
- 24x48x160 Video (15" x 15" x 16")
- 8x DVD ROM Upgradeable to 16x48x160 Video (15" x 15" x 16")
- Build-in 56K Modem & 10/100 Ethernet LAN (optional)
- Web TV Webcam (2M)
- Sound Blaster Live! Compatible 3D Enhanced Sound with 5.1 Surround
- 2x FireWire TV Out, FireWire, USB, FireWire
- Windows XP Home, XP Professional, XP Media Center

Special upgrade to 3.0 GHz Pentium 4 1.7 GHz

\$2,899

Includes 1GB RAM

FREE UPGRADE TO 3.0 GHz Pentium 4 1.7 GHz

\$2,199

Includes 1GB RAM



ANGEL 3300 LCD PC

- 15.1" TFT Active Matrix LCD (800x600)
- Intel Pentium 4 1.7 GHz, Up to 3.0 GHz
- 256 MB SDRAM Upgradeable to 1 GB
- 20.0 GB Hard Drive, Upgradeable to 80 GB
- 24x48x160 Video (15" x 15" x 16")
- 8x DVD ROM Upgradeable to 16x48x160 Video (15" x 15" x 16")
- Build-in 56K Modem & 10/100 Ethernet LAN (optional)
- Web TV Webcam (2M)
- Sound Blaster Live! Compatible 3D Enhanced Sound with 5.1 Surround
- 2x FireWire TV Out, FireWire, USB, FireWire
- Windows XP Home, XP Professional, XP Media Center

Special upgrade to 3.0 GHz Pentium 4 1.7 GHz

\$1,799

Includes 1GB RAM

FREE UPGRADE TO 3.0 GHz Pentium 4 1.7 GHz

\$2,199

Includes 1GB RAM

NETWORK SERVERS



EC1016 SERVER

- 1x 1000Base-T Ethernet
- Intel Celeron 1.0 GHz
- 256 MB SDRAM Upgradeable to 1 GB
- 20.0 GB Hard Drive, Upgradeable to 80 GB
- 24x48x160 Video (15" x 15" x 16")
- 8x DVD ROM Upgradeable to 16x48x160 Video (15" x 15" x 16")
- Build-in 56K Modem & 10/100 Ethernet LAN (optional)
- Web TV Webcam (2M)
- Sound Blaster Live! Compatible 3D Enhanced Sound with 5.1 Surround
- 2x FireWire TV Out, FireWire, USB, FireWire
- Windows XP Home, XP Professional, XP Media Center

\$1,299

Includes 1GB RAM

EC1022 SERVER

- 1x 1000Base-T Ethernet
- Intel Celeron 1.0 GHz
- 256 MB SDRAM Upgradeable to 1 GB
- 20.0 GB Hard Drive, Upgradeable to 80 GB
- 24x48x160 Video (15" x 15" x 16")
- 8x DVD ROM Upgradeable to 16x48x160 Video (15" x 15" x 16")
- Build-in 56K Modem & 10/100 Ethernet LAN (optional)
- Web TV Webcam (2M)
- Sound Blaster Live! Compatible 3D Enhanced Sound with 5.1 Surround
- 2x FireWire TV Out, FireWire, USB, FireWire
- Windows XP Home, XP Professional, XP Media Center

\$2,399

Includes 1GB RAM

ACCESSORIES

PRINTER, EXTERNAL DRIVES

- 1x 1000Base-T Ethernet
- Intel Celeron 1.0 GHz
- 256 MB SDRAM Upgradeable to 1 GB
- 20.0 GB Hard Drive, Upgradeable to 80 GB
- 24x48x160 Video (15" x 15" x 16")
- 8x DVD ROM Upgradeable to 16x48x160 Video (15" x 15" x 16")
- Build-in 56K Modem & 10/100 Ethernet LAN (optional)
- Web TV Webcam (2M)
- Sound Blaster Live! Compatible 3D Enhanced Sound with 5.1 Surround
- 2x FireWire TV Out, FireWire, USB, FireWire
- Windows XP Home, XP Professional, XP Media Center

\$299

Includes 1GB RAM

PRINTER, PCMCIA CARD

- 1x 1000Base-T Ethernet
- Intel Celeron 1.0 GHz
- 256 MB SDRAM Upgradeable to 1 GB
- 20.0 GB Hard Drive, Upgradeable to 80 GB
- 24x48x160 Video (15" x 15" x 16")
- 8x DVD ROM Upgradeable to 16x48x160 Video (15" x 15" x 16")
- Build-in 56K Modem & 10/100 Ethernet LAN (optional)
- Web TV Webcam (2M)
- Sound Blaster Live! Compatible 3D Enhanced Sound with 5.1 Surround
- 2x FireWire TV Out, FireWire, USB, FireWire
- Windows XP Home, XP Professional, XP Media Center

\$99

Includes 1GB RAM

GPS PCMCIA CARD

- 1x 1000Base-T Ethernet
- Intel Celeron 1.0 GHz
- 256 MB SDRAM Upgradeable to 1 GB
- 20.0 GB Hard Drive, Upgradeable to 80 GB
- 24x48x160 Video (15" x 15" x 16")
- 8x DVD ROM Upgradeable to 16x48x160 Video (15" x 15" x 16")
- Build-in 56K Modem & 10/100 Ethernet LAN (optional)
- Web TV Webcam (2M)
- Sound Blaster Live! Compatible 3D Enhanced Sound with 5.1 Surround
- 2x FireWire TV Out, FireWire, USB, FireWire
- Windows XP Home, XP Professional, XP Media Center

\$299

Includes 1GB RAM

UNIVERSAL PORT REPLICATOR

- 1x 1000Base-T Ethernet
- Intel Celeron 1.0 GHz
- 256 MB SDRAM Upgradeable to 1 GB
- 20.0 GB Hard Drive, Upgradeable to 80 GB
- 24x48x160 Video (15" x 15" x 16")
- 8x DVD ROM Upgradeable to 16x48x160 Video (15" x 15" x 16")
- Build-in 56K Modem & 10/100 Ethernet LAN (optional)
- Web TV Webcam (2M)
- Sound Blaster Live! Compatible 3D Enhanced Sound with 5.1 Surround
- 2x FireWire TV Out, FireWire, USB, FireWire
- Windows XP Home, XP Professional, XP Media Center

\$149

Includes 1GB RAM

CELLULAR BEAD YAW PCMCIA MOODM

- 1x 1000Base-T Ethernet
- Intel Celeron 1.0 GHz
- 256 MB SDRAM Upgradeable to 1 GB
- 20.0 GB Hard Drive, Upgradeable to 80 GB
- 24x48x160 Video (15" x 15" x 16")
- 8x DVD ROM Upgradeable to 16x48x160 Video (15" x 15" x 16")
- Build-in 56K Modem & 10/100 Ethernet LAN (optional)
- Web TV Webcam (2M)
- Sound Blaster Live! Compatible 3D Enhanced Sound with 5.1 Surround
- 2x FireWire TV Out, FireWire, USB, FireWire
- Windows XP Home, XP Professional, XP Media Center

\$129

Includes 1GB RAM

Build your Notebook Online @ www.angelcomputer.com

Angel Computers is a leading computer retailer in Canada, specializing in mobile computing solutions.

Our products are available in our showrooms and online.



905-501-8375

Hands On

Lab Test • Hardware Evaluations • Software & CD-ROM Reviews

Hardware security from A to V

TCP Lab looks at devices to help keep data safe

By Dave Chappelle

Computer security is a hot topic today, covering everything from subscription to data storage security, data transfer security, privacy, identity protection, physical asset protection, disk protection, and loss recovery.

When you purchase a mouse, or other peripheral, you generally begin using it once connected, and forget about it. Not so with security products. Effective security requires maintenance. At the very least, passwords should be updated.

However, few of us change passwords regularly unless required to by network administrators. Fewer still are aware that most logins and passwords are sent over the Internet using "clear text"—which is not encrypted and can easily be read. If someone has placed a keylogger or other spyware program on your system, or intercepted your clear text, the new passwords will be instantly apparent. How would you know? Most likely, you wouldn't.

Hardware to the rescue

And that is the single biggest problem with computer security: it's never enough. Security is a process, not an event. With software solutions, it's not as simple as turning a key in a lock and forgetting about it. You must always be on guard.

No wonder so many users play intruders, stacking their heads in the sand. Computers already require effort. Properly securing a computer requires more, and certain



tions, effort.

Generally, hardware security devices require less maintenance than software security programs. In an effort to increase the level of security knowledge and practices of our readers, we've examined a few security products covering different aspects of computer security.

AlphaShield: Address unknown

www.alphaid.com

Suggested retail price: \$299.95

Warranty: one year

Almost everybody knows the Internet isn't anonymous, as IP addresses are traceable. Theoretically, if your IP address is not visible, it can't be used for nefarious purposes. To keep your IP address safe, Burnaby, B.C.-based Shieldnet has released the AlphaShield IP address hider.

In Stealth IP feature hides your computer's IP address.

Continued on page 43

Maxtor's IDE drives go external

By Sean Connolly

Most hard drive manufacturers have kept their desktop business pretty focused: the IDE hard drive is the blocky silver thing that goes inside a computer case, and connects directly to the motherboard. While other companies have incorporated some of these IDE drives into external products, the hard drive manufacturers had little incentive to do so themselves.

While the SCSI has had a fairly well-established and high-speed method of getting data into a computer from outside, the IDE has not, forcing the drive to be connected through one of the other and slower buses into the PC—like parallel or USB.

In a way, it would have been like releasing a hybrid product—if the ATA100 hard drive inside the external case is capable of 100 MBps transfers, but your USB connection is only capable of 12 MBps, then the hard drive wouldn't be able to perform anywhere near its true abilities because of the bottleneck at the USB 1.1 connection. Why would you want to put your brand name on something like that?

Now that both USB 2.0 and FireWire are starting to make inroads into the mainstream desktop PC space, there's more reason to consider moving into that market. Maxtor has done just that: with the release of its bundled Personal Storage line, available for both USB 2.0 and FireWire connections. At 680 MBps and 480 MBps respectively, both of these connectivity options are a lot closer to the potential of the hard drives.

We had a chance to look at two of Maxtor's new

Continued on page 42

Get the best of
www.canadacomputes.com
every week in your inbox!



.com The classic
.biz Means business
.info Focus on information
.ca Truly Canadian
.name It's all about you

The Choice is Yours!

Now is the perfect time to find a web address that reflects your business or passion. Why wait? With each domain registration, you receive a **FREE** web page, **FREE** web forwarding and **FREE** e-mail forwarding so you can start using your new .com, .biz, .info, .ca or .name domain right away!

Register Today!

www.domainpeople.com/cp

1 604 639 1680 1 877 734 3667



• N A •



DomainPeople
 a QVCentative company

©2001 DomainPeople, Inc. All rights reserved. Offers subject to change without notice. TM denotes a trademark of DomainPeople, Inc.

◀ HANDS ON ▶

Master IDE drives go external

Continued from page 41

external drives. Both are compatible with Windows 98SE, Me, 2000, and XP as well as Mac OS 9.0 and later for the USB drive and 8.6 and later for the FireWire drive). They sport an identical translucent external case, save for the colour of the bands on the left and right side of the box.

We transferred a folder with 650 MB worth of files, about the size of our fail CD, to the drives to test transfer speed. This was done on a box running Windows XP Professional, using an Athlon 1800+ processor, teamed up with 512 MB of PC2100 DDR memory. The host drive on the host computer was a Maxtor 6D400L, running at 7,200 rpm on an ATA133 bus. USB 2.0 connectivity was provided by Belkin's F5U139 add-in card, and FireWire through a SoundMaster Audigy Platinum EX card.

Master 300LE

From: Maxtor Corp.

www.maxtor.com

Estimated price: \$220 to \$480 (converted from US\$200 to \$280)

The 300LE sports bright red stripes down the sides of the case, and if you look through the top of the case, you'll spot either a 40 or 120 GB DiamondMax hard drive with a 5,400 rpm spindle speed. The drive plugs into your USB bus and is compatible with both USB 2.0 and the older USB 1.1, though transfer speed will be severely limited if you opt for 1.1 (USB 2.0 is 40 times faster, after all).

We got our hands on the 120 GB version of the 300LE, and put it through its paces. It took 64 seconds to transfer our 650 MB folder to the 300LE and 52 seconds to copy the folder back to the host. (By comparison, it took 42 seconds to copy the same folder to an internal ATA100 hard drive on the host.) While there's still a performance penalty moving to an external solution, that penalty is nowhere near as great as it used to be—unless you're running an application where every last bit of data bandwidth is necessary, you may not even notice the difference.

The biggest complaint we had here was the lack of a power switch on the external drive, which means that if you wanted to spin down the drive itself you have to either pull the plug, or plug it into power but or UPS that can be switched off.

Master 3000XT

From: Maxtor Corporation

www.maxtor.com

formatting price \$640 (converted from US\$480). Maxtor offers three FireWire-based external solutions: the 30000FV uses the 7,200-rpm DiamondMax Plus drive in 60- and 80-GB capacities; the 1394 External Storage series uses 7,200-rpm drives in either 40- or 80-GB capacities; and then there's the 3000XT. If you read the hard drive feature in our February issue, you may remember the Maxtor DS40K drive, a 160-GB monster that provided a ton of capacity but a few installation quirks. If you're dropping that drive into an external FireWire model, Maxtor got around the 137-GB capacity cap that you ran into if you try to connect your drive to most onboard IDE connectors—here, you just plug the 3000XT into your FireWire port and your computer should use the entire 160 GB, no matter which OS you're using.

Even though FireWire is slower than USB 2.0, there wasn't a big difference in the time it took to copy 600 MB to the drive: 66 seconds. Surprisingly, we were able to get the data back to the host in 42 seconds flat, about the same time it took to do an internal transfer. If streaming data from the external drive is important, it looks like Maxtor's FireWire version has the edge.

The back of the drive featured another FireWire port, so you can chain another FireWire device through that one if you so desire. Again, about the only real complaint we had was the lack of a power switch on the external drive.

We were curious about the differences in transfer speeds for the two Maxtor external drives we tested: so theory, the USB 2.0 drive should have been faster than the FireWire drive due to the 20-percent theoretical throughput advantage the 480-Mbps USB 2.0 spec has over the 400-Mbps FireWire spec. In our testing, though, the drives performed almost equally when writing to the external media, and the FireWire drive had a noticeable advantage when copying back to the host. We asked Maxtor: what gives?

After going through the standard drill jigs to make sure all our hardware was functioning properly, it basically came down to the bridge chips on the external drives. The bridge chip in the hardware that allows the IDE drive to communicate with the connectivity bus.

In this case, the bridge chip inside the USB 2.0, known as the ICH200, has a maximum sustained read transfer of 38 MBps and a maximum write transfer of 14 MBps. The FireWire drive, on the other

hand, comes with the more robust Dockstar 911 bridge chip, capable of 30-Mbps read transfer and 21-Mbps write transfer.

Without going into the exact math here (wow), the differences in the transfer rates for those bridge chips explain why the drive performed at a nearly equal level when writing to the external media, and why the FireWire drive took

the lead when copying back to the host. It's worth noting that since USB 2.0 is still in its infancy, the ICH200 bridge chip is basically an initial implementation of the bridge chip—you can expect that future models will include a more robust throughput, which should allow the drive to perform at a level that takes better advantage of the USB 2.0 spec. □

Adding USB 2.0 the Belkin way

Any day now, we should start seeing motherboards with USB 2.0 connectivity right en masse, but the majority of us will have to add it manually. Thanks to a list of companies talked up USB 2.0 hardware, Belkin was one of the first we saw that really delivered, with PCI add-in cards, as well as USB 2.0 hubs.

We got our hands on the PU1229 add-in card, which slots into the PCI bus and sports a total of five USB 2.0 ports—four on the rear bracket and one internal port. Each of the ports has an LED to indicate its status at a glance. The card was easy to install. We dropped it into an empty PCI slot, and our Windows XP box knew it was a USB controller right away. A quick driver update got it running at full speed without further ado. Installation of the drivers under Windows 98 was fairly quick and easy using the included drivers disc (included are drivers for Windows 98SE, 2000, Me, and XP).

We also looked at the external four-port USB 2.0 hub, model PU121. It features a semi-circular stackable design similar to that seen on previous Belkin products. The hub requires external power and ships with a power brick. The hub is platform-agnostic—so long as your PC has functional USB 2.0 connectivity, this hub should work just fine.

Both products come with a lifetime warranty. The estimated price for the PCI card is \$120, and the hub is also \$120.

—Steve Conners

THE FUTURE IS WIRELESS

ARE YOU READY?

WIRELESS LAN ADMINISTRATION COURSE

Wireless Local Area Network (LAN) Administration Course delivers comprehensive coverage, including planning, installing, and troubleshooting of a Wireless LAN. This course provides unprecedented hands-on training that benefits the novice as well as the experienced network professional.

WHO CAN BENEFIT FROM THIS OPPORTUNITY?

This course targets both novice and experienced networking professionals who wish to gain a solid understanding of wireless networking, to complement their knowledge of traditional wired networking.

CERTIFICATION:

The Wireless LAN Administration Course is ideal to prepare students for the Certified Wireless Network Administrator exam (exam PWO-100). The CWNA certification exam itself is available at all Prometric Testing Centres worldwide.

GROWTH FORECAST

The fastest growing segment of the communications industry is the Wireless LAN sector which is poised to grow from \$1.1 billion in 2002 to \$2.2 billion by 2005.



WIRELESS WORKSHOP

LOCATION:

The Holiday Inn Of King (Downtown)
120 King St. West, Suite 234
Toronto, Canada

DATE:

May 6th - May 10th, 2002

TIME:

9:00 AM - 5:00 PM

CONTACT:

offices: (416) 528-8188

fax: (416) 462-4350

web: www.wave2wireless.ca

email: info@wave2wireless.ca

LIMITED ENROLLMENTS

Call To Check Availability
Of Seats

OFFERED AND
PRESENTED BY



Globility

ONLINE

縱橫網絡站

商業網站存放
Web Hosting
月費 \$8.95起
www.planetess.com

Yearly Special
1 Year of Unlimited
Interactive access for **ONLY**
\$150.00*

一年撥號無限上網
大特價 \$150.00*

Get your 1st
month of DSL **\$1**
access for only

住宅DSL首月
只收 \$1.00

Unlimited
Interactive Dial-up
ONLY \$10.99 per month**
撥號無限上網
首三個月
月費 \$10.99**

Hours per month	Email Addresses	Web space	Rates*
10	1 Account	5 MB	\$5.00/mth
35	1 Account	10 MB	\$9.17/mth
60	2 Accounts	10 MB	\$12.00/mth
New User Special Unlimited Interactive	1 Account	10 MB	\$10.99/mth**
Yearly Special Unlimited Interactive	2 Accounts	10 MB	\$150.00/yr***

*Based on yearly pre-payment, taxes extra. **Based on a 3-monthly pre-payment, new subscribers only. ***New subscribers only.

Globility Online has been providing
Premium Internet Access since 1997.
Service is available in English and Chinese.
We invite you to experience the Globility
Difference!

縱橫網絡站自九七年起，一直為客戶
提供勝人一籌的中英語互聯網服務。
我們誠意邀請您立即聯絡本公司，
親身享受這高質素的上網服務！

Globility Online Inc.
3454 Semenyk Court
Suite 101
Mississauga, Ontario
L5C 4P6
Phone: (416) 385-0459
Fax: (416) 385-0469
Email: info@globility.com

www.globility.com



Hardware security from A to V

Continued from page 45

advance over software solutions.

The Alpha Shield works with external cable and DSL modems. It will work between a network and a modem, provided the network card can operate at 90 Mbps (900 Mbps not supported).

The unit is as simple to set up as just plugging in the appropriate cables. We accessed our mail computer frequently, but after a reboot there was no further problems.

An auxiliary pass-through Ethernet port is for connecting other devices, or running tests, without providing steady capability.

EToken: For your eyes only

www.idmde.com

Price: \$27 (Q 16-88), \$29 (Q 32-64), \$41 (96 to 192), just to be set (796-32-82)

Warranty: one year

From Aladdin Knowledge Systems, the eToken encrypts and stores private keys, passwords, and digital certificates—authentication methods used in e-commerce and secure data transfers.

Physically, the eToken resembles a USB



memory device, and is roughly the size of a loose key and can be easily attached to a key ring. Because it uses a USB interface, the eToken works with a standard USB port rather than requiring a dedicated reader.

For hard-to-reach spots, an extension cable is included that connects to a USB port on one end and the eToken on the other. A suction cup at the eToken end of the cable allows a user to attach it to a convenient place, such as the side of the system case or monitor.

The eToken works with numerous encryption and security (authentication) systems, including CheckPoint, VeriSign, Baltimore, Entrust, RSA, and Microsoft. Aladdin offers a developer's kit for tailoring the device to specific applications.

The eToken comes with software that allows you to change the eToken name and password. The eToken type, version,

and available memory can also be checked and the device lights up when the software is installed and working.

To access eToken-protected data, a user has to provide both the eToken and a password. This is known as "two-factor" authentication. Even if the password is discovered, without the eToken being physically plugged into the USB port, the computer cannot be accessed. On the other hand, if you were to forget your password, the eToken would also become useless—plus you would not be able to reset it since you would also need the password to access the software.

ETokens are available in green, red, blue, purple, and in personalized versions. The R2 model uses 128-bit encryption. The Pro version is a 1,024-bit RSA smart card. Data is stored in EEPROM (electrically erasable programmable read-only memory). Aladdin insured so that the eToken will remain clear for a minimum of 10 years, with at least 100,000 memory cell rewrites.

PC Pal: Remote at your own risk

www.palcom.com

Price: \$185

Warranty: two years

The PC Pal has three prevention alarms—and it's a head one. The factory default setting is 90 dB, the loudest alarm volume allowed in public places. You can order a 130 dB model, if you intend to use the device outdoors.

A lockout controls the alarm, with a turn of the key arming and disarming it. For locations with multiple systems, lockouts can be ordered that use the same key.

The alarm is triggered by motion sensors, which can be adjusted for sensitivity. At low sensitivity, the PC Pal must be physically moved for the alarm to sound. At high setting, the alarm can be set off when someone with a heavy footfall walks by.

In our tests, no one could carry a system more than a few steps before the alarm sounded even at the least-sensitive setting. If the alarm is unintentionally tripped, it can be deactivated using a push-button reset switch and a technique explained only to alarm purchasers.

A coin-cell battery powers the alarm for up to nine hours. A lithium battery version is available. Both battery power sources are separate from the system power supply and motherboard BIOS battery.

Versions are available to fit into 3.5-inch and 5.25-inch drive bays, or a PC slot. A laptop version is in development. Custom installations are also available.

The PC Pal comes with warning stickers for additional deterrence.

SecureGen peripherals:

Are you really you?

www.securegen.com

Price: \$249 (Optima), \$279 (Elite),

\$279 (Optima)

Warranty: one year

Tired of other people accessing and changing your system settings? Concerned that a roommate, sibling, child, or spouse might delete something important? Would you like to be the only person able to access your computer? If that describes you, you may want to consider biometric authentication. The SecureGen system, with iO SecureSuite, including SecureDesktop 2000 software, uses fingerprint identification to authenticate users.



Measuring fingerprint details in three dimensions, SecureGen devices record the data. When scanned, a member of the details must match the stored fingerprint record before a file is opened, a user is logged on, or a user can proceed farther.

The OptiMouse sample we tested used an optical sensor. It connects via USB, but parallel and standard rolling ball versions are also available.

At 128x63.5 cm (5 1/4x2 1/2x1/16 in.), it is the size of an average mouse, with two buttons and a scroll wheel on top. Fingerprint data is captured through a small acrylic-coated polycarbonate window on the left side.

How secure is the fingerprint authentication? We tried using a two-dimensional fingerprint captured on clear tape.

Continued on page 46

OZ TECH 3 Easy Steps to Wireless



Step 1: Wireless NIC For your PC/PDA/Laptop:

LinkSys WMP11 PCI for Desktop \$169
LinkSys WUSB11 USB for Desktop/Laptop \$149
LinkSys WCF11 Compact Flash for PDA \$199



Step 2: Wireless Router or Access Point:

LinkSys BRW1154 4 Port Router 11Mb \$299
LinkSys WAP11 Network Access Point \$249
SMC 7004 4 Port Router+Print Server \$329



Step 3: Wireless Cepable PDA Device:

HandSpring Visor Neo w/Palm OS Mono \$279
HandSpring Visor Prism w/Palm OS Color \$459
Palm M125 PDA w/Palm OS Mono \$329
Palm M130 PDA w/Palm OS Color \$439
Compaq IPAQ 3650 Color w/Windows CE \$549
Compaq IPAQ 3670 Color w/Windows CE \$549

Now You are set to be Wireless!

Contact Us for Complete Wireless Solutions for Your Home Office!



www.oztech.ca

(T) 905 270 2900

(F) 905 270 8743

CHALLISERS/STERN/SA

1-877-QUICK-REPLY

1-877-QUICK-REPLY

The World First KT333 Board

SL-75DRV5

Next Generation Of SL-75DRV2/DRV4

Purple Ray

DDR333



- Supports AMD™ (TM) Athlon™, Duron™ & DDr™
- Supports AMD™ (TM) DDr™
- BIOS Memory Protection, K8 & Virtual Addressing
- AGP 8X/4X, 1.5V/1.6V, 1.8V, 2.0V, 2.2V
- Integrated AC'97 Audio
- Integrated FireWire™
- SATA™ Interface
- Supports 4 USB Ports
- Supports A201™ (TM) Graphics

SL-75DRV2



- Supports AMD™ (TM) Athlon™, Duron™ & DDr™
- Supports AMD™ (TM) DDr™
- BIOS Memory Protection, K8 & Virtual Addressing
- AGP 8X/4X, 1.5V/1.6V, 1.8V, 2.0V, 2.2V
- Integrated AC'97 Audio
- Integrated FireWire™
- SATA™ Interface
- Supports 4 USB Ports
- Supports A201™ (TM) Graphics

SL-75DRV4



- Supports AMD™ (TM) Athlon™, Duron™ & DDr™
- Supports AMD™ (TM) DDr™
- BIOS Memory Protection, K8 & Virtual Addressing
- AGP 8X/4X, 1.5V/1.6V, 1.8V, 2.0V, 2.2V
- Integrated AC'97 Audio
- Integrated FireWire™
- SATA™ Interface
- Supports 4 USB Ports
- Supports A201™ (TM) Graphics

SL-75DRV5



- Supports AMD™ (TM) Athlon™, Duron™ & DDr™
- Supports AMD™ (TM) DDr™
- BIOS Memory Protection, K8 & Virtual Addressing
- AGP 8X/4X, 1.5V/1.6V, 1.8V, 2.0V, 2.2V
- Integrated AC'97 Audio
- Integrated FireWire™
- SATA™ Interface
- Supports 4 USB Ports
- Supports A201™ (TM) Graphics

Authorized Distributor

CAS

CAS Computer Systems Inc.
10000 100 Ave. N.E.
Edmonton, AB T6E 6K6
Canada
Tel: (780) 443-8888
Fax: (780) 443-8889
Email: info@cas.com

bdtech.ca
Bd Technology Inc.

Bd Technology Inc.
10000 100 Ave. N.E.
Edmonton, AB T6E 6K6
Canada
Tel: (780) 443-8888
Fax: (780) 443-8889
Email: info@bdtech.ca



Hardware security from A to V

Continued from page 46

with no success. We also attempted to use a finger cast made from common household silicone.

Another technique seen in movies, of cutting off someone's thumb, won't work either, since a thermal sensor (body heat) is required. (Rather than test this method, we accepted the word of Sci-Fi Gen. reps.)

Most users will be prevented from accessing your files by the fingerprint window that appears in where you would normally see a password screen—as soon as the system is booted, a key is pressed, or the mouse moved to bring the computer out of standby mode.

However, design flaws in Windows 9x can let a determined person physically access your system. Booting into safe mode, booting into DOS, or booting from a floppy disk can bypass all third-party security software.

Even Windows 2000 security can be bypassed with third-party boot software designed for that purpose. For added protection, SecureDisk can be used to encrypt individual files and folders.

On the plus side, once biometric authentication is installed, users don't have to remember their passwords. IT support professionals won't have to answer any more calls from users who have forgotten their passwords.

The Hammer is a standalone fingerprint reader, about the same size as a paper clip. Despite that, it offers all the biometric security features. The keyboard will soon be available with a biometric sensor plus SmartCard reader.

Siemens ID Mouse Professional:

Capacitive resistance reader

From: Siemens Electronics (PSE TechLab in US)



www.siemenselectronics.com

Price: \$324.95

Siemens claims its original ID Mouse, introduced in 1998, is the best-selling standalone biometric device in Europe. It announced the ID Mouse Professional at Las Vegas Comdex in November, and we've been using our test sample off and on since then. As a mouse, this USB device is very comfortable to use. It has a scroll wheel and optical tracking rather than a physical ball, so it requires little maintenance.

The biometrics portion of the ID Mouse Professional is a fingerprint scanner. Like other biometric devices, it records a unique biological characteristic (in this case, a person's fingerprint) into its database, then uses it for authentication instead of a password. The software allows the user to register fingerprints from all digits.

The fingerprint reader is based on capacitive resistance rather than optical scanning, which Siemens says is a more rugged technology that requires less space to implement—so the mouse is smaller and more durable.

We could find no product information about the ID Mouse Professional on Siemens' Canadian site, but there is information about it on its San Jose, Calif.-based Siemens PSE TechLab site (www.pse-techlab.com). It is currently available online for US\$119.

VaultX: Safe behind a wall

www.vaultx.com

Price: \$10 (single disk), \$250 (double disk)

Warranty: one year



There are plenty of software and hardware firewalls on the market—most of which prevent unauthorized access to systems or networks. VaultX storage firewall is slightly different. It places a copy of selected data or the entire contents of a hard drive behind impenetrable and invisible protection.

VaultX has its own built-in processor and memory. A 3.5-inch hard drive is attached and connected to the VaultX device, which is then mounted in a 5.25-inch drive bay.

An LCD on the front panel indicates the activity or mode selection of the drive. Another window provides two separate storage firewalls. Yet another will appear in a PCI slot.

We witnessed a single version in action. The VaultX rep deleted an entire program from a test system. The system was rebooted, and the program was obviously missing. By rebooting again and accessing the VaultX menu, the only real configuration, including the missing program, was completely restored.

Restoring one program was impressive, but what happens when a malicious agent deletes an entire hard disk partition? We watched as the entire C: drive partition was deleted. The system was restarted and nothing was on the drive. It appeared totally new and unpartitioned. From an option on the VaultX menu, the operating system was restored in seconds. The original system was exact, as if nothing had happened. And nothing had happened to the viruses behind the stor-

age firewall.

VaultX works with hard disks of any capacity, with any operating system, in any PC using ATA/EIDE drives. All speeds of hard drive are mountable, including ATA (UDMA) 100.

You can choose between live and protected modes. In the latter, any changes made to the computer during a stolen are lost when you shut down, so you are always rebooting to the same, fixed configuration.

Sometimes new software can render a perfectly good computer useless. How many times have you installed new software, only to completely ruin your system? Had you first backed it up with VaultX, your old system could be restored in seconds.

It's better than those "restore disks" included with some brand computers, which only restore the original factory software and settings. Anything installed or configured between the day the system was shipped and the first crash is gone forever.

The only downside to VaultX is that if an entire drive is to be protected, its capacity is cut in half. Our example was a 10 GB hard drive. To protect the entire drive, we were allowed no more than 5 GB of storage. At current low prices for data storage, that is a small price to pay for complete protection and virtually instant restoration.

Although unlikely, if dense space is required, the entire drive need not be backed up to VaultX. Specific files, groups of important data, and possibly an operating system can be placed behind the storage firewall.

This solution protects server hard disks as well as those in standalone computers. It's a versatile product, and one that users of any experience will consider being overkill. □

Standard DEM • Bilingual • French Canadian • TBITS • Ergonomic • Multimedia • Internet • Bioscience • Smart Card • Wireless • Custom Logos & Colours

ALPS FLOPPIES

• Largest Canadian keyboard distributor • 15 Years in Operation • Over 40,000 keyboards in stock.

CHERRY

KEY TRONIC

SOLIDUS

PERIPHERALS

SIMPLE

Technology Inc.

Montreal

Quebec

514-212-2012

514-565-7187



Hit any key to continue

For Reseller Promotions visit: www.simpletechnology.com

CAS**COTEC ADVANCED SYSTEMS INC.**

280 Shields Court, Markham, Ontario, L3R 9V2

Toll Free: 1-877-888-2CAS

Toronto: 905.513.6388

Fax: 905.513.7229

Montreal: 514.336.9880

Fax: 514.336.9608

www.go-cas.com | www.Soltek.com.tw | sales@go-cas.com

ATX 26 P4P4 CASE



ATX 24 P4P4 CASE

ATX 18 USB P4
S-CLASS HI-END CASE
3 FANSATX 312 P4 CASE
BLACK/SILVER

CAS T8T CASE

S-CLASS 120MM P8P4 SLIM



S-CLASS MINI SLIM



SL-421 100MM 800



SL-420 100MM SPEAKER



CAS 911 CASE



ATX 300 USB P4 CASE

KEYBOARD
AND OTHER COMPUTER
ACCESSORIESHARD DRIVE, MEMORY
CPU'S, NETWORKING...

Your Source Of Excellence

LEADS 17" (21 MONITOR
3 YEAR WARRANTY

SERVER CABINETS



RACKMOUNT CABINETS



CUSTOM BUILT SYSTEMS

OPTICAL AND CORDLESS MICE



ALL BACKMOUNT 8000

ATX 17
P4 CASE**MANUFACTURER / DISTRIBUTOR, CAS YOUR ONE STOP SOURCE**

LIFE TIME WARRANTY ON POWER SUPPLIES



We Chose Pathway. Affordable and Reliable Internet Access

DIAL-UP INTERNET SERVICES

Plan	Free hours per month	Free Web Space	Free Mailboxes	Monthly Fee	Annual Fee
PLAN 1	50	2 MB	1	\$ 9.95	\$ 99.00
PLAN 1F (Family)	100	5 MB	2	\$14.95	\$149.00
PLAN 2 (Family)	150	7 MB	3	\$19.95	\$199.00
PLAN 3	Unlimited!	9 MB	4	\$25.95	\$279.00
PLAN 3F (Family)	350	12 MB	5	\$25.95	\$279.00

WEB & EMAIL HOSTING PACKAGES

	Web Space	Email Addresses	Monthly Fee
Web 1	40 MB	10	\$19.95
Web 2	100 MB	20	\$29.95
Web 3	200 MB	40	\$59.95

NEW

FASTPath - Unlimited HIGH SPEED residential Internet access with Spam control, e-mail virus scanning and a modem you can keep for \$34.95 per month.



pathway
communications

416 214-6363

info@pathcom.com www.pathcom.com

THE REAL **CANADIAN** PC DIRECT



The center of your digital world

Get an IPC system featuring Intel® Pentium® 4 processor
The center of your digital world

Wondering how you could download MP3 files, scan and edit photos from your digital camera, tele-conference, watch high-quality movies, or even create your own professional-quality videos? IPC has the solution for you. Get started with an IPC Select system featuring Intel® Pentium® 4 processor. The center of your digital world



IPC Select 1300

PIV4-43042

- Intel® Pentium® 4 processor 1.30 GHz
- 1GB RAM
- 16GB Hard Drive
- Built-in CD-RW drive
- nVIDIA TNT 32MB AGP Graphics
- 56K PCI Modem
- Integrated 3D Sound
- Amplified Speakers
- Wireless keyboard and mouse
- Microsoft Windows Me (with CD)
- 17" Monitor

FREE with purchase
FREE Upgrade to:
20GB Hard Drive

UPGRADE BONUS UPGRADE:
Upgrade to
Microsoft Windows XP
for only \$48.00

IPC Select 1600

PIV4-43043

- Intel® Pentium® 4 processor 1.60 GHz
- 1GB RAM
- 20GB Hard Drive
- Built-in CD-RW drive
- nVIDIA TNT 32MB AGP Graphics
- with TV Out
- 56K PCI Modem
- Integrated 3D Sound
- 602W K.H Speakers with subwoofer
- Wireless keyboard and mouse
- Microsoft Windows XP Home
- Corel® WordPerfect® Office
- 17" Monitor

FREE with purchase
FREE Upgrade to:
20GB Hard Drive

IPC Select 1800

PIV4-43042

- Intel® Pentium® 4 processor 1.80 GHz
- 1GB RAM
- 20GB Hard Drive
- Built-in CD-RW drive
- nVIDIA TNT 32MB AGP Graphics
- with TV Out
- 56K PCI Modem
- Integrated 3D Sound
- 600W K.H Speakers with subwoofer
- Wireless keyboard and mouse
- Microsoft Windows XP Home
- Corel® WordPerfect® Office
- 17" Monitor

FREE with purchase
FREE Upgrade to:
20GB Hard Drive

Featuring Genuine
Intel® Pentium® 4
processor with RAM

**RETAIL VALUE
\$599.00**

\$999.00

\$1188.00

\$1449.00

CD-ROM, DVD, CD-RW	Hard Drives	Networking	Monitors	Webcams
<ul style="list-style-type: none"> 5in CD-RW \$ 49.99 16x DVD-RW \$ 99.99 Built-in CD-RW \$ 99.99 16x DVD-RW \$ 109.99 	<ul style="list-style-type: none"> 16GB SATA \$109.99 16GB IDE \$109.99 16GB IDE \$109.99 	<ul style="list-style-type: none"> Fixed PC 10/100 \$19.99 Wireless PC 10/100 \$19.99 Wireless PC 10/100 \$19.99 Wireless PC 10/100 \$19.99 	<ul style="list-style-type: none"> 17" Philips \$179.99 17" Sony \$249.99 17" Samsung 1000 \$249.99 17" Samsung 1000 \$249.99 17" LG Philips \$249.99 	<ul style="list-style-type: none"> Webcam \$ 19.99 Webcam \$ 19.99 Webcam \$ 19.99 Webcam \$ 19.99 Webcam \$ 19.99

IPC Select 1300

Intel® Pentium® 4

- Intel® Pentium® 4 processor 1.30 GHz
- 128MB SDRAM
- 10GB Hard Drive
- 50x CD ROM
- 3D AGP Graphics™
- 10/100 Home Network Card
- Integrated 3D Sound
- Amplified speakers
- Windows keyboard and mouse
- Operating system not included
- 17" Monitor

FREE with purchase

Full Upgrade to:
25GB Hard Drive



SPECIAL BONUS UPGRADE:

ADD Microsoft Windows Me for only \$109.00

ADD Microsoft Windows XP for only \$149.00

ADD Six PC Modems for only

\$3.00

\$688.00



IPC Select 1500

Intel® Pentium® 4

- Intel® Pentium® 4 processor 1.50 GHz
- 128MB SDRAM
- 30GB Hard Drive
- 50x CD ROM
- 3D AGP Graphics™
- 56K Modem
- 10/100 Home Network Card
- Integrated 3D Sound
- Amplified Speakers
- Windows keyboard and mouse
- Operating system not included
- Corel® WordPerfect® Office
- 17" Monitor

FREE with purchase

Full Upgrade to:
40GB Hard Drive



SPECIAL BONUS UPGRADE:

ADD Microsoft Windows Me for only \$109.00

ADD Microsoft Windows XP for only \$149.00

\$888.00



IPC DO IT YOURSELF Upgrade Package

Upgrade your old PC to:

a Genuine Intel® Pentium® 4 processor 1.60 GHz for only .

\$449.00

You get:

- Intel® Pentium® 4 processor 1.60 GHz
- PC Chips M527 motherboard
- 256MB SDRAM
- AGP Graphics
- 56K Modem
- Integrated 3D Sound
- 10/100 Network
- Internet keyboard and mouse
- 1 year parts warranty
- Installation not included



MultiMedia

	Julius 4 processor normal card	\$19.99
	Julius 88 speakers	\$19.99
	80 Speakers with subwoofer Hollywood 4 ports normal card speakers	\$59.99
	PG Video 4 port normal card speakers	\$59.99

Fortress of the month

	40GB Internal Hard Drive	\$29.99
	256MB SDRAM Memory Card	\$29.99
	Julius 4 processor normal card	\$19.99

	Optical CD 3000 Digital Camera 1.3MP	\$49.99
	Optical CD 3000 Digital Camera 1.3MP	\$49.99
	IP Design 300 Gear Printer	\$49.99

Take Your Pictures with You!

Introducing Julius Certified USB Portable Drive

	256MB - \$49.99
	512MB - \$59.99
	1GB - \$99.99
	2GB - \$149.99

256MB Drive Starts up in 30 digital camera pictures in under 400ms. Only one USB cable needed.

IPC Direct Markham



IPC On-Line Auction: <http://auctions.ipc.ca> IPC Clearance Sale: www.ipc.ca/clearance

More systems available at IPC Direct Markham or www.ipc.ca / 1.888.446.4472

Intel, Pentium, and the Intel logo are trademarks of Intel Corporation or its subsidiaries in the United States and other countries. Microsoft, Windows, and the Windows logo are registered trademarks or trademarks of Microsoft Corporation in the United States and other countries. Corel, WordPerfect, and the WordPerfect logo are registered trademarks or trademarks of Corel Corporation in the United States and other countries. All other trademarks are the property of their respective owners. © 2004 IPC Direct Markham. All rights reserved.

IPC
PERSONAL
COMPUTERS

824-354-00

4

4

5

MEC = AXF

13:17

Welcome to the Future



Author's Note: I thank the anonymous reviewers for their helpful comments. I also thank the following people for their assistance in data collection: Jennifer B. Berman, David J. Berman, and the staff of the National Longitudinal Study of Adolescent Health.



© 2005 Blackwell Publishing Ltd
Journal of Internal Medicine 258: 103–110



Availability: Worldwide
Price: \$199.99 (US) / \$249.99 (Canada)
Release Date: September 2011
Manufacturer: Sony
Model: W20000
Weight: 1.1 lbs (0.5 kg)
Dimensions: 11.8 x 7.1 x 1.6 in (300 x 180 x 40 mm)

[illegible]

3D Animation, Digital Video, NLE

Discreet 3D Studio MAX 4

Combustion 2

Canada's Largest Authorized NLE

Complete Turn-key Editing Systems

Matrox/Intel NLE Avid
Targa3000 NewTek
DVD Authoring Toaster 2

Call us before you buy! Sony **Razor** Adobe

matrox RT2500

PINNACLE DV

Quad Xeon Workstations

Fastest Systems in the World!

Rock-Mounted Systems

Open GL Video Cards

Alias **MAYA** New Low Price **\$3195**

WWW.Jtech.ca (416) 869-0001

666 Celeron 512 East
Toshiba, Ontario

Technology

"HANDS ON"

LiveSlideShow an innovative tool

By Justin Simmons

LiveSlideShow, from Macromedia, B.C.-based Total! Software, is one of the most innovative and useful pieces of software to come around in a long time.

The interface is so easy to learn and use it deserves to be a part of Apple's "Applications" family. With it, you can create cross-platform slideshows that include buttons, menus, and colourful backgrounds—all in a single ClickTime file.

LiveSlideShow 3.0

From Total! Software Inc.
www.total!inc.com, www.liveslideshow.com
Price: \$249.99 (download or box)

Installation is very simple just drag the data files to your hard drive. There

are no extensions to install. It's as easy to install as any of the recent Microsoft software releases with the drag and drop installers.

If you buy the boxed version, the CD includes software that runs under Mac OS 8, OS X, and Windows. The program can also be downloaded from Total! High's Web site.

Once installed, LiveSlideShow is dead simple to use and includes sample files to help you get started. Upon launching it, you are asked if you want to open an existing file or create a new one.

Make your choice and you are presented with an iMovie-style interface with your images stored in a media area to the left, a preview of your slideshow on the right side, and a timeline on the bottom of the screen.

The interface is also like iMovie in that

Continued on page 38

Best Deals from Intel, Toshiba, Compaq, Canon, etc.

KEIT Computers

We provide many great deals from Intel, Toshiba, Compaq, Canon, etc.

Intel Celeron 300 \$449 Intel P4 3.0 \$499

Intel Celeron 300 \$449 Intel P4 3.0 \$499

Intel Celeron 300 \$449 Intel P4 3.0 \$499

Intel Celeron 300 \$449 Intel P4 3.0 \$499

Intel Celeron 300 \$449 Intel P4 3.0 \$499

Intel Celeron 300 \$449 Intel P4 3.0 \$499

Intel Celeron 300 \$449 Intel P4 3.0 \$499

Intel Celeron 300 \$449 Intel P4 3.0 \$499

Intel Celeron 300 \$449 Intel P4 3.0 \$499

Intel Celeron 300 \$449 Intel P4 3.0 \$499

Intel Celeron 300 \$449 Intel P4 3.0 \$499

Intel Celeron 300 \$449 Intel P4 3.0 \$499

Intel Celeron 300 \$449 Intel P4 3.0 \$499

Intel Celeron 300 \$449 Intel P4 3.0 \$499

Intel Celeron 300 \$449 Intel P4 3.0 \$499

Intel Celeron 300 \$449 Intel P4 3.0 \$499

Intel Celeron 300 \$449 Intel P4 3.0 \$499

Intel Celeron 300 \$449 Intel P4 3.0 \$499

Intel Celeron 300 \$449 Intel P4 3.0 \$499

Intel Celeron 300 \$449 Intel P4 3.0 \$499

Intel Celeron 300 \$449 Intel P4 3.0 \$499

Intel Celeron 300 \$449 Intel P4 3.0 \$499

Intel Celeron 300 \$449 Intel P4 3.0 \$499

Intel Celeron 300 \$449 Intel P4 3.0 \$499

Intel Celeron 300 \$449 Intel P4 3.0 \$499

Intel Celeron 300 \$449 Intel P4 3.0 \$499

Intel Celeron 300 \$449 Intel P4 3.0 \$499

Intel Celeron 300 \$449 Intel P4 3.0 \$499

Intel Celeron 300 \$449 Intel P4 3.0 \$499

Intel Celeron 300 \$449 Intel P4 3.0 \$499

Intel Celeron 300 \$449 Intel P4 3.0 \$499

Intel Celeron 300 \$449 Intel P4 3.0 \$499

Intel Celeron 300 \$449 Intel P4 3.0 \$499

Intel Celeron 300 \$449 Intel P4 3.0 \$499

Address: 2822 Sheppard Ave. East (at Sheppard & Bayview)

Phone: (416) 493-3300 Fax: (416) 493-3360

Website: www.keit.com

Intel Celeron 300 \$449 Intel P4 3.0 \$499

Intel Celeron 300 \$449 Intel P4 3.0 \$499

Intel Celeron 300 \$449 Intel P4 3.0 \$499

Intel Celeron 300 \$449 Intel P4 3.0 \$499

Intel Celeron 300 \$449 Intel P4 3.0 \$499

Intel Celeron 300 \$449 Intel P4 3.0 \$499

Intel Celeron 300 \$449 Intel P4 3.0 \$499

Intel Celeron 300 \$449 Intel P4 3.0 \$499

Intel Celeron 300 \$449 Intel P4 3.0 \$499

Intel Celeron 300 \$449 Intel P4 3.0 \$499

Intel Celeron 300 \$449 Intel P4 3.0 \$499

Intel Celeron 300 \$449 Intel P4 3.0 \$499

Intel Celeron 300 \$449 Intel P4 3.0 \$499

Intel Celeron 300 \$449 Intel P4 3.0 \$499

Intel Celeron 300 \$449 Intel P4 3.0 \$499

Intel Celeron 300 \$449 Intel P4 3.0 \$499

Intel Celeron 300 \$449 Intel P4 3.0 \$499

Intel Celeron 300 \$449 Intel P4 3.0 \$499

Intel Celeron 300 \$449 Intel P4 3.0 \$499

Intel Celeron 300 \$449 Intel P4 3.0 \$499

Intel Celeron 300 \$449 Intel P4 3.0 \$499

Intel Celeron 300 \$449 Intel P4 3.0 \$499

Intel Celeron 300 \$449 Intel P4 3.0 \$499

Intel Celeron 300 \$449 Intel P4 3.0 \$499

Intel Celeron 300 \$449 Intel P4 3.0 \$499

Intel Celeron 300 \$449 Intel P4 3.0 \$499

Intel Celeron 300 \$449 Intel P4 3.0 \$499

Intel Celeron 300 \$449 Intel P4 3.0 \$499

Intel Celeron 300 \$449 Intel P4 3.0 \$499

Intel Celeron 300 \$449 Intel P4 3.0 \$499

Intel Celeron 300 \$449 Intel P4 3.0 \$499

Intel Celeron 300 \$449 Intel P4 3.0 \$499

Intel Celeron 300 \$449 Intel P4 3.0 \$499

Intel Celeron 300 \$449 Intel P4 3.0 \$499

Intel Celeron 300 \$449 Intel P4 3.0 \$499

Intel Celeron 300 \$449 Intel P4 3.0 \$499

Intel Celeron 300 \$449 Intel P4 3.0 \$499

Intel Celeron 300 \$449 Intel P4 3.0 \$499

Intel Celeron 300 \$449 Intel P4 3.0 \$499

Intel Celeron 300 \$449 Intel P4 3.0 \$499

Intel Celeron 300 \$449 Intel P4 3.0 \$499

Intel Celeron 300 \$449 Intel P4 3.0 \$499

Intel Celeron 300 \$449 Intel P4 3.0 \$499

Intel Celeron 300 \$449 Intel P4 3.0 \$499

Intel Celeron 300 \$449 Intel P4 3.0 \$499

Intel Celeron 300 \$449 Intel P4 3.0 \$499

Intel Celeron 300 \$449 Intel P4 3.0 \$499

Intel Celeron 300 \$449 Intel P4 3.0 \$499

Intel Celeron 300 \$449 Intel P4 3.0 \$499

Intel Celeron 300 \$449 Intel P4 3.0 \$499

Intel Celeron 300 \$449 Intel P4 3.0 \$499

Intel Celeron 300 \$449 Intel P4 3.0 \$499

Intel Celeron 300 \$449 Intel P4 3.0 \$499

Intel Celeron 300 \$449 Intel P4 3.0 \$499

Intel Celeron 300 \$449 Intel P4 3.0 \$499

Intel Celeron 300 \$449 Intel P4 3.0 \$499

Intel Celeron 300 \$449 Intel P4 3.0 \$499

Intel Celeron 300 \$449 Intel P4 3.0 \$499

Intel Celeron 300 \$449 Intel P4 3.0 \$499

Intel Celeron 300 \$449 Intel P4 3.0 \$499

Intel Celeron 300 \$449 Intel P4 3.0 \$499

Intel Celeron 300 \$449 Intel P4 3.0 \$499

Intel Celeron 300 \$449 Intel P4 3.0 \$499

Intel Celeron 300 \$449 Intel P4 3.0 \$499

Intel Celeron 300 \$449 Intel P4 3.0 \$499

Intel Celeron 300 \$449 Intel P4 3.0 \$499

Intel Celeron 300 \$449 Intel P4 3.0 \$499

Intel Celeron 300 \$449 Intel P4 3.0 \$499

Intel Celeron 300 \$449 Intel P4 3.0 \$499

Intel Celeron 300 \$449 Intel P4 3.0 \$499

Intel Celeron 300 \$449 Intel P4 3.0 \$499

Intel Celeron 300 \$449 Intel P4 3.0 \$499

Intel Celeron 300 \$449 Intel P4 3.0 \$499

TIME FOR A CHANGE!

HIGH-TECH HARDWARE TO MATCH YOUR HIGH-TECH WORLD!

SIGNA's VALUE PC INTEL & AMD CONFIGS FOR EVERYONE!

POWERBOXES

Performer 4 1.6a

\$999

LEASE FOR \$38/MONTH

Lease for 24 mos.

Lease for 36 mos.

Lease for 48 mos.

Lease for 60 mos.

Lease for 72 mos.

Lease for 84 mos.

Lease for 96 mos.

Lease for 108 mos.

Lease for 120 mos.

Lease for 132 mos.

Lease for 144 mos.

Lease for 156 mos.

Lease for 168 mos.

Lease for 180 mos.

Lease for 192 mos.

Lease for 204 mos.

Lease for 216 mos.

Lease for 228 mos.

Lease for 240 mos.

Lease for 252 mos.

Lease for 264 mos.

Lease for 276 mos.

Lease for 288 mos.

Lease for 300 mos.

Lease for 312 mos.

Lease for 324 mos.

Lease for 336 mos.

Lease for 348 mos.

Lease for 360 mos.

Lease for 372 mos.

Lease for 384 mos.

Lease for 396 mos.

Lease for 408 mos.

Lease for 420 mos.

Lease for 432 mos.

Lease for 444 mos.

Lease for 456 mos.

Lease for 468 mos.

Lease for 480 mos.

Lease for 492 mos.

Lease for 504 mos.

Lease for 516 mos.

Lease for 528 mos.

Lease for 536 mos.

Lease for 548 mos.

Lease for 560 mos.

Lease for 572 mos.

Lease for 584 mos.

Lease for 596 mos.

Lease for 608 mos.

Lease for 620 mos.

Lease for 632 mos.

Lease for 644 mos.

Lease for 656 mos.

Lease for 668 mos.

Lease for 680 mos.

Lease for 692 mos.

Lease for 704 mos.

Lease for 716 mos.

Lease for 728 mos.

Lease for 740 mos.

Lease for 752 mos.

Lease for 764 mos.

Lease for 776 mos.

Lease for 788 mos.

Lease for 800 mos.

Lease for 812 mos.

Lease for 824 mos.

Lease for 836 mos.

Lease for 848 mos.

Lease for 860 mos.

Lease for 872 mos.

Lease for 884 mos.

Lease for 896 mos.

Lease for 908 mos.

Lease for 920 mos.

Lease for 932 mos.

Lease for 944 mos.

Lease for 956 mos.

Lease for 968 mos.

Lease for 980 mos.

Lease for 992 mos.

Lease for 1004 mos.

Lease for 1016 mos.

Lease for 1028 mos.

Lease for 1040 mos.

Lease for 1052 mos.

Lease for 1064 mos.

Lease for 1076 mos.

Lease for 1088 mos.

Lease for 1100 mos.

Lease for 1112 mos.

Lease for 1124 mos.

Lease for 1136 mos.

Lease for 1148 mos.

Lease for 1160 mos.

Lease for 1172 mos.

Lease for 1184 mos.

Lease for 1196 mos.

Lease for 1208 mos.

Lease for 1220 mos.

Lease for 1232 mos.

Lease for 1244 mos.

Lease for 1256 mos.

Lease for 1268 mos.

Lease for 1280 mos.

Lease for 1292 mos.

Lease for 1304 mos.

Lease for 1316 mos.

Lease for 1328 mos.

Lease for 1340 mos.

Lease for 1352 mos.

Lease for 1364 mos.

Lease for 1376 mos.

Lease for 1388 mos.

Lease for 1400 mos.

Lease for 1412 mos.

Lease for 1424 mos.

Lease for 1436 mos.

Lease for 1448 mos.

Lease for 1460 mos.

Lease for 1472 mos.

Lease for 1484 mos.

Lease for 1496 mos.

Lease for 1508 mos.

Lease for 1520 mos.

Lease for 1532 mos.

Lease for 1544 mos.

Lease for 1556 mos.

Lease for 1568 mos.

Lease for 1580 mos.

Lease for 1592 mos.

Lease for 1604 mos.

Lease for 1616 mos.

Lease for 1628 mos.

Lease for 1640 mos.

Lease for 1652 mos.

Lease for 1664 mos.

Lease for 1676 mos.

Lease for 1688 mos.

Lease for 1700 mos.

Lease for 1712 mos.

Lease for 1724 mos.

Lease for 1736 mos.

Lease for 1748 mos.

Lease for 1760 mos.

Lease for 1772 mos.

Lease for 1784 mos.

Lease for 1796 mos.

Lease for 1808 mos.

Lease for 1820 mos.

Lease for 1832 mos.

Lease for 1844 mos.

Lease for 1856 mos.

Lease for 1868 mos.

Lease for 1880 mos.

Lease for 1892 mos.

Lease for 1904 mos.

Lease for 1916 mos.

Lease for 1928 mos.

Lease for 1940 mos.

Lease for 1952 mos.

Lease for 1964 mos.

Lease for 1976 mos.

Lease for 1988 mos.

Lease for 2000 mos.

Lease for 2012 mos.

Lease for 2024 mos.

Lease for 2036 mos.

Lease for 2048 mos.

Lease for 2060 mos.

Lease for 2072 mos.

Lease for 2084 mos.

Lease for 2096 mos.

Lease for 2108 mos.

Lease for 2120 mos.

Lease for 2132 mos.

Lease for 2144 mos.

Lease for 2156 mos.

Lease for 2168 mos.

Lease for 2180 mos.

Lease for 2192 mos.

Lease for 2204 mos.

Lease for 2216 mos.

Lease for 2228 mos.

Lease for 2240 mos.

Lease for 2252 mos.

Lease for 2264 mos.

Lease for 2276 mos.

Lease for 2288 mos.

Lease for 2300 mos.

Lease for 2312 mos.

Lease for 2324 mos.

Lease for 2336 mos.

Lease for 2348 mos.

Lease for 2360 mos.

Lease for 2372 mos.

Lease for 2384 mos.

Lease for 2396 mos.

Lease for 2408 mos.

Lease for 2420 mos.

Lease for 2432 mos.

Lease for 2444 mos.

Lease for 2456 mos.

Lease for 2468 mos.

Lease for 2480 mos.

Lease for 2492 mos.

Lease for 2504 mos.

Lease for 2516 mos.

Lease for 2528 mos.

Lease for 2540 mos.

Lease for 2552 mos.

Lease for 2564 mos.

Lease for 2576 mos.

Lease for 2588 mos.

Lease for 2600 mos.

Lease for 2612 mos.

Lease for 2624 mos.

Lease for 2636 mos.

Lease for 2648 mos.

Lease for 2660 mos.

Lease for 2672 mos.

Lease for 2684 mos.

Lease for 2696 mos.

Lease for 2708 mos.

Lease for 2720 mos.

Lease for 2732 mos.

Lease for 2744 mos.

Lease for 2756 mos.

Lease for 2768 mos.

Lease for 2780 mos.

Lease for 2792 mos.

Lease for 2804 mos.

Lease for 2816 mos.

Lease for 2828 mos.

Lease for 2840 mos.

Lease for 2852 mos.

Lease for 2864 mos.

Lease for 2876 mos.

Lease for 2888 mos.

Lease for 2900 mos.

Lease for 2912 mos.

Lease for 2924 mos.

Lease for 2936 mos.

Lease for 2948 mos.

Lease for 2960 mos.

Lease for 2972 mos.

Lease for 2984 mos.

Lease for 2996 mos.

Lease for 3008 mos.

Lease for 3020 mos.

Lease for 3032 mos.

Lease for 3044 mos.

Lease for 3056 mos.

Lease for 3068 mos.

Web Hosting Doesn't Excite Darren...

Online Success Does.

Hosting Packages from \$22.95!

- 20 - 300MB Disk Space
- 1 - 10GB Bandwidth
- POP E-mail Accounts
- SMTP
- E-mail Forwarding
- E-mail Aliasing
- E-mail Auto Responder
- Graphical Usage Statistics
- Web-based Control Panel
- FrontPage Extensions
- 24 x 7 FTP Access

30Day Money Back
Guarantee**2 Months****FREE!**Enter Promo Code
upon Order**NetNation**

CANADA'S #1 WEB HOST

NADPAC-NAAC

Web Hosting | E-commerce | Media Streaming | Managed Services

1 888 277 0000

www.netnation.ca/cp

© 2001 NetNation Inc. All rights reserved. No part of this publication may be reproduced without permission in writing from NetNation Inc.

- HANDS ON -

LiveSlideShow and innovative tool

Continued from page 55



Today's LiveSlideShow 2.0 interface

it bags your entire screen, which may bother some people, but unlike iMovie the window can be resized if you choose.

We created several sample slideshows and found the process to be very quick—a slideshow with a couple of dozen images can be thrown together in less than an hour.

What are the benefits of a presentation created in LiveSlideShow? Everything is in one file that you can email or distribute any number of ways without worrying about dependencies. Also, the overall file size is often smaller than the combined size of the images outside LiveSlideShow, since they are uncompressed when the project is saved out.

With LiveSlideShow, you can choose from a number of themes and styles and even include music.

So, for the mere amount of work in attaching 20 photos to an email and sending them to someone, you can create and send one LiveSlideShow file with built-in navigation, soundtrack, and backgrounds. The end result is much more slick and adds value to digital photography.

LiveSlideShow also works well with iPhoto. You can simply grab a bunch of images in your iPhoto window and drag them onto LiveSlideShow to add them to your project.

Though LiveSlideShow comes packaged with a number of built-in themes, it is not easy to create your own. This is perhaps its only weakness.

To create a new QuickTime skin, for example, requires first registering as a theme developer, then creating a complex bundle including an XML document and numerous Photoshop graphics.

There are instructions for this on the
Continued on page 63

HP 16x CD-R MEDIA 50 PACK 700MB 52 MIN 24x \$8.99 \$7.99	COMPACT FLASH MEMORY CARDS 48MB \$49.99 64MB \$59.99 128MB \$89.99	USB PEN DRIVE 16MB \$9.99	MOTHERBOARD & CPU COMBO 733MHz \$199.99	MOTHERBOARD & CPU + MEMORY \$179.99	1.8" Electronic PORTABLE MP3 PLAYER WITH 32MB \$79.99	PHILIPS SATUR MP3 PLAYER WITH 32MB \$149.99
AST 15" \$99.99	LAGAN 350 DIGITAL CAMERA \$69.99	4MM PCI VIDEO WITH TV TUNER \$39.99	ATI Radeon \$79.99	IDE CD-RW RETAIL BOXED KIT \$119.99	1.8" Electronic CD-RW RETAIL BOXED KIT \$89.99	PHILIPS CD-RW & DVD-ROM COMBO DRIVE \$159.99
MAJOR BRAND 17" \$129.99	MITSUBISHI 21" \$299.99	PHILIPS FLAT PANEL \$449.99	PLUSTEK FLATBED SCANNER \$199.99	IDE CD-RW DRIVE \$99.99	EXTERNAL CD-RW DRIVE \$179.99	PHILIPS DVD WRITER \$499.99
ViewSonic OPTIMUS 811 17" \$179.99	ViewSonic OPTIMUS 811 17" \$199.99	ViewSonic OPTIMUS 811 22" \$599.99	SMARTKEY FLATBED SCANNER \$79.99	10/100 ETHERNET CARD \$12.99	SAMSUNG 40 X IDE CD-ROM \$39.99	HARD DRIVES 30GB \$109.99
Logitech WIRELESS OPTICAL MOUSE \$39.99	Logitech WIRELESS OPTICAL MOUSE \$49.99	Logitech WIRELESS OPTICAL MOUSE \$49.99	HERMAN/KARDON 2-PIECE SPEAKER SET \$19.99	PHILIPS 3-PIECE SPEAKER SET \$29.99	ADDTRON 52MP 4 PORT 10/100 ROUTER \$99.99	INTEL WIRELESS NETWORKING 1.6 MBPS \$59.99

VISIT OUR WEBSITE FOR SPECIAL CORPORATE, GOVERNMENT, & DEALER PRICING

ORDER DIRECTLY OFF THE WEB AT

factorydirect.ca

WE NOW SHIP CANADA WIDE!

ORDER HOTLINE (905) 660-1400

PERFORMER 166 32 MB 2 GB CD-ROM \$89.99	MAJOR BRAND PPRO 200 64 MB 3 GB CD \$129.99	PII 266 MAJOR BRAND 64 MB 3 GB CD-ROM \$169.99	PII 300 64 MB 3 GB CD-ROM \$219.99	AMD 300 Mhz 64 MB 3 GB CD-ROM \$189.99	MAJOR BRAND PII 400 64 MB 4 GB CD-ROM \$299.99	TOSHIBA PII 300 64 MB RAM 10 GB 14.1 TFT \$899.99
MAJOR BRAND (Intel 600MHz) 64MB 10GB CD \$399.99	Intel (Intel 600MHz) 64MB 15GB CD-RW \$439.99	Intel (Intel 600MHz) 64MB 30GB CD-RW \$479.99	Intel (Intel 600MHz) 1GHz 128MB 30GB CD-RW \$599.99	COMPAQ PII 800 128MB 15GB CD / W2000 \$649.99	DELL PII 600 128MB RAM 10 GB HDD DVD-ROM \$1399.99	TOSHIBA PII 500 64 MB RAM 12 GB DVD / W398 \$1399.99
AMD 1-TB2D 1.3 GHz 64MB 10GB CD \$799.99	HEWLETT PACKARD 1.4GHz XP 512MB 40GB CD-RW \$999.99	HEWLETT PACKARD 2.0GHz 256MB 40GB CD-RW \$1499.99	IBM ThinkPad 380XD PII 233 4 GB CD \$649.99	IBM ThinkPad 380XD PII 300 4 GB CD \$799.99	TOSHIBA PII 600 PORTAGE 7200 64 MB RAM 12 GB DVD / W398 \$1499.99	

SCARBOROUGH: 1500 Kennedy Rd. #2, 4th Floor (at Midland) (905) 750-7782
 TORONTO: 380 College St. #2 (at Spadina) (416) 593-7700
 SCARBOROUGH, HAMILTON, & TORONTO STORES NOW OPEN SUNDAY - Please Open Hours are subject to change without notice. Hours are subject to change without notice. Hours are subject to change without notice.

factorydirect.ca

Canada's Computer Liquidators

OUTLET HOURS: 11am-7pm MON-FRI / 10am-6pm SAT. SERVICE HOURS: 11am-6pm MON-FRI / 10am-6pm SAT

Microsoft major product ranges from PC-to-TV scan converters, TV Tuner/Capture cards, Video editing/editing, TV walls, multi-screen displays, security cameras and much more.



Digital Video Surveillance System

- Up to 16 composite video inputs
- Digital Video Surveillance
- Motion Detection Monitoring
- With Security Monitoring
- Remote Access (Web, Networking, Dial-In)
- Digital Recording
- Backup, Playback Utility
- Upgradable to Current Alarm System



Microsoft's Eye Pro
M21 product 16000000
Microsoft's Eye Pro
M21 product 16000000
Microsoft's Eye Pro
M21 product 16000000

PC to TV Scan Converters

MicroMed 360

- Intelligent Display on computer and TV monitors (display all VGA monitors and Multisync Mac monitors up to 1024x768 or 1.7 million colors)
- Plug & Play, no software or drivers required
- Only 100mA Standby (no standby for sleep mode)
- Support composite (S-Video) and RGB video output

Microsoft 360 1071-00000



MicroMed ScanMed

- Supports VGA up to 1440x1080 (Compatible with NTSC, PAL, SECAM) for resolution (1770x1470) or 1.7 million colors
- Fixed weight only, 10 lbs
- VGA and composite video inputs
- 2 video and audio input options
- 2 video output options
- 2 video output options
- 2 video output options
- 2 video output options
- 2 video output options

Microsoft 360 1071-00000

Eye Center PC-to-TV

- Supports VGA and composite video input up to 1024x768 or 1.7 million colors
- Fixed weight only, 10 lbs
- VGA and composite video inputs
- 2 video and audio input options
- 2 video output options
- 2 video output options
- 2 video output options
- 2 video output options
- 2 video output options

Microsoft 360 1071-00000



Eye TV Scan Converter

Supports VGA and composite video input up to 1024x768 or 1.7 million colors

Eye TV Scan Converter

Supports VGA and composite video input up to 1024x768 or 1.7 million colors

Eye TV Scan Converter

Supports VGA and composite video input up to 1024x768 or 1.7 million colors

Eye TV Scan Converter

Supports VGA and composite video input up to 1024x768 or 1.7 million colors

Eye TV Scan Converter

Supports VGA and composite video input up to 1024x768 or 1.7 million colors

Eye TV Scan Converter

Supports VGA and composite video input up to 1024x768 or 1.7 million colors

Eye TV Scan Converter

Supports VGA and composite video input up to 1024x768 or 1.7 million colors

Eye TV Scan Converter

Supports VGA and composite video input up to 1024x768 or 1.7 million colors

Eye TV Scan Converter

Supports VGA and composite video input up to 1024x768 or 1.7 million colors

Eye TV Scan Converter

Supports VGA and composite video input up to 1024x768 or 1.7 million colors

> HANDS ON >

TCP Test Lab

Security glossary

Authentication: Confirmation of a user's identity. Performed three ways: what you have (key or token), what you know (password), or who you are (biometric).

Bandwidth: Organic measurement, balancing one or more degrading biological tests. In-gate and palm print, voice wave patterns, and retina and iris patterns, for example.

Bay: 100 per second—measure of data transfer. A bit is the smallest portion of digital data. Other common data rate measures are kilobit (1,000 bps) and megabit (one million bps).

CA: Certificate authority—a central authority that issues and manages security credentials for public keys. Part of a PKI, a CA checks with the RA to verify information provided by the requester of a digital certificate. Once confirmed, the CA issues a certificate.

Ciphertext: Encrypted message, and therefore unreadable data into readable form.

Digital certificate: Issued by a CA to establish confidence when conducting Web transactions. Contains your name, a serial number, expiration date, a copy of the certificate holder's public key and the issuing authority's digital signature.

DNS: Required to authenticate users. Can look up other users' public keys.

Digital signature: An electronic signature used to authenticate the identity of the sender of a message or the signer of a document.

DSS: Digital subscriber line—high-speed internet service carried over the same telephone line that carries voice calls.

Encryption: Transforming readable data into unreadable form.

Firewall: Hardware or software that controls information flow between computers.

IP: Internet protocol. Messages are divided into individual units of data known as packets. IP ensures each packet arrives at its intended destination.

IP address: A unique number consisting of four groups of three numbers, ranging from 0 to 255 (very computer on the internet has one).

Keylogger: A type of spyware that records keystrokes of a computer and either sends the recorded keystrokes to another party or stores them for later retrieval and use.

Logical disconnect: Warning a system to remain physically connected, but not allowing data to be received or transmitted. IP addresses can then be maintained and the system used, but it can't communicate with other computers.

NAT: Network address translation—translating IP addresses of one network to a different IP address, which is known to another network.

Port: A hole in a network that is used to connect to another network. The port is used to connect to another network.

Physical disconnect: A physically open circuit—unplugging the cable.

PKI: Public key infrastructure—a system enabling users to transfer money and information securely. Often used in e-commerce transactions. Users have two mathematically related keys: one private, one public. The private key is used to encrypt sensitive data.

Port: A hole in a network that is used to connect to another network. The port is used to connect to another network.

Port: A hole in a network that is used to connect to another network. The port is used to connect to another network.

Port: A hole in a network that is used to connect to another network. The port is used to connect to another network.

Port: A hole in a network that is used to connect to another network. The port is used to connect to another network.

Port: A hole in a network that is used to connect to another network. The port is used to connect to another network.

Port: A hole in a network that is used to connect to another network. The port is used to connect to another network.

Port: A hole in a network that is used to connect to another network. The port is used to connect to another network.

Port: A hole in a network that is used to connect to another network. The port is used to connect to another network.

Port: A hole in a network that is used to connect to another network. The port is used to connect to another network.

Port: A hole in a network that is used to connect to another network. The port is used to connect to another network.

Port: A hole in a network that is used to connect to another network. The port is used to connect to another network.

Port: A hole in a network that is used to connect to another network. The port is used to connect to another network.

Port: A hole in a network that is used to connect to another network. The port is used to connect to another network.

Port: A hole in a network that is used to connect to another network. The port is used to connect to another network.

Port: A hole in a network that is used to connect to another network. The port is used to connect to another network.

Port: A hole in a network that is used to connect to another network. The port is used to connect to another network.

Port: A hole in a network that is used to connect to another network. The port is used to connect to another network.

Port: A hole in a network that is used to connect to another network. The port is used to connect to another network.

Port: A hole in a network that is used to connect to another network. The port is used to connect to another network.

Port: A hole in a network that is used to connect to another network. The port is used to connect to another network.

Port: A hole in a network that is used to connect to another network. The port is used to connect to another network.

Port: A hole in a network that is used to connect to another network. The port is used to connect to another network.

LiveSlideShow and Innovative tool
Continued from page 58



Two screens from a LiveSlideShow presentation.

LiveSlideShow site, but it is recommended only for advanced users.

Other unique features include a built-in voice recorder function for creating narration for each photo, and a built-in captioning system that allows you to write details for each slide. The captions can even be set to scroll if they are too long to fit on one slide.

So how does this program accomplish all that? Well, like Totally Hip's high-end LiveStage/Professional, LiveSlideShow is a QuickTime authoring environment. It allows you to work with images, sounds, transitions, and captions, and when everything is the way you want it, LiveSlideShow writes it out to a self-contained QuickTime file.

The end result can look like an application but is actually just another clever use of QuickTime's scripting, sprite, and skin capabilities.

Overall a very impressive package, perfect for the home user, easy to use and reasonably priced.

Recommended for anyone with a digital camera or iPhoto. Information and samples are available at the LiveSlideShow Web site. www.livestageshow.com

Justin Siemsen is a Mac OS specialist based in Minneapolis, B.C. He can be reached at jpsiemsen@mac.com.

9 out of 10 companies go out of business after losing their data*



Would yours survive?

A data disaster can strike at any time – a hard disk crash, a lost or stolen computer, equipment failure or worse. What are you doing to protect your business?

Merlin's EssentialServer is the easiest, most affordable way to protect your data and add storage to your network. It combines fully integrated data backup and recovery with scalable data storage and file sharing. EssentialServer installs in minutes and virtually anyone can manage it using the simple and intuitive browser-based interface.

- Storage capacities from 80GB – 1TB with RAID Level 0, 1, 5 data protection
- Built-in high capacity tape drive with fully integrated backup and recovery software
- Automatic notebook and desktop backup – never worry about lost files or disk crashes again
- Supports Windows, Mac and Unix users with unlimited client licenses
- "One button" restore and recovery of files, folders or entire drives

With solutions starting at \$1,699, Merlin's EssentialServer provides affordable peace of mind for your business. Remember, it's easier to plan for a data disaster than explain why you didn't.

Call Merlin or your local reseller for more information on the innovative EssentialServer. Visit our website at www.merlinsofttech.com



Merlin EssentialServer™

Merlin Technologies

360 – 4370 Davidson St., Burnaby, BC, V5G 4J7
1-877-968-7227 sales@merlinsofttech.com

Recovery of lost data for business is a service we do not provide.
©2002 Merlin Technologies Inc. All rights reserved. EssentialServer and MerlinSoft are trademarks of Merlin Technologies Inc. All other trademarks are the property of their respective owners.

Dealer Enquiries
Welcome

"Nobody told me
there was a virus attached
to that email."

**Introducing desktop software that's designed to block unsafe
email attachments *before* they spread through your system.**

It's just one of many new security features included in Microsoft® Office XP. And it can help protect your entire system against viruses that are spread via email. Office XP also includes enhanced security features

Computer viruses cost businesses \$13.2 billion in 2001. With names like Nimda, Netya and SirCam, computer viruses have become headline news. And with good reason. According to Computer Economics, an independent research firm, the damage caused by computer viruses cost business an astounding \$13.2 billion last year alone in lost productivity, system damage and repairs. With Windows XP and Office XP, you've got some of the most effective software available for protecting your PCs and your entire system from this widespread problem.

such as digital signatures and privacy settings which help prevent unauthorized users from accessing confidential data. With Microsoft Windows® XP, you also get the powerful security model used by Windows 2000, including the ability to encrypt files and folders and do offline synchronization at

the same time.* Together, these features make Windows XP and Office XP our most secure desktop software ever. For more details on how Windows XP and Office XP can provide your company with a whole new level of security, contact your preferred technology vendor or visit us at: www.microsoft.ca/desktop.



TORONTO

100 College St.
Tel: (416) 593-4700
Fax: (416) 593-4701
Mon-Fri 10:00-6:00
Sat 10:00-5:00
Sun 12:00-5:00

NORTH YORK

201 Sheppard Ave. E.
Tel: (416) 491-1111
Fax: (416) 491-1112
Mon-Fri 10:00-6:00
Sat 10:00-5:00
Sun 12:00-5:00

MARKHAM

100 Sheppard Ave. E.
Tel: (905) 477-1111
Fax: (905) 477-1112
Mon-Fri 10:00-6:00
Sat 10:00-5:00
Sun 12:00-5:00

BRAMPTON

100 Sheppard Ave. E.
Tel: (905) 874-1111
Fax: (905) 874-1112
Mon-Fri 10:00-6:00
Sat 10:00-5:00
Sun 12:00-5:00

TOLL FREE: 1-866-543-IGCT (6222)
Http://www.igct.ca

POWER P4 \$1389

INTEL P4 600MHz PIII 400MHz
ASUS P4B 400MHz
256MB PC100 SDRAM
ATI Radeon 7500 128MB DDDR
Hard 5.4GB IDE 400MHz
Power Supply 400W
Case 19.5" ATX
OS: Windows 98 SE
ATI Radeon 7500 128MB DDDR
Hard 5.4GB IDE 400MHz
Power Supply 400W
Case 19.5" ATX
OS: Windows 98 SE

BEST PRICE, BEST SERVICE

25 SAMUNG 1515 LCD	\$535	19 SAMUNG 9500P FLAT	\$358
17 SAMUNG 7530P	\$325	17 SAMUNG 9500P	\$193
17 KODAK P1100 P1100	\$595	25 SAMUNG 9500P	\$193
EPSON C6000	\$145	EPSON C6000	\$145
EPSON Stylus Color 740	\$135	EPSON Stylus Color 740	\$135
17 LG 15" MON	\$45	17 LG 15" MON	\$45
17 LG 15" MON	\$45	17 LG 15" MON	\$45
TEAN TIGER 100	\$335	SHOHO SPORT 100	\$335

THUNDER PC \$1129

AMD ATOM 600 PIII 400MHz
ASUS P4B 400MHz
256MB PC100 SDRAM
ATI Radeon 7500 128MB DDDR
Hard 5.4GB IDE 400MHz
Power Supply 400W
Case 19.5" ATX
OS: Windows 98 SE

TORNADO \$749

INTEL P4 600MHz PIII 400MHz
ASUS P4B 400MHz
256MB PC100 SDRAM
ATI Radeon 7500 128MB DDDR
Hard 5.4GB IDE 400MHz
Power Supply 400W
Case 19.5" ATX
OS: Windows 98 SE

GRAND P4 \$1879

INTEL P4 600MHz PIII 400MHz
ASUS P4B 400MHz
256MB PC100 SDRAM
ATI Radeon 7500 128MB DDDR
Hard 5.4GB IDE 400MHz
Power Supply 400W
Case 19.5" ATX
OS: Windows 98 SE

GRAND XP \$1769

AMD ATOM 600 PIII 400MHz
ASUS P4B 400MHz
256MB PC100 SDRAM
ATI Radeon 7500 128MB DDDR
Hard 5.4GB IDE 400MHz
Power Supply 400W
Case 19.5" ATX
OS: Windows 98 SE

SUPER PLAY \$699

AMD ATOM 600 PIII 400MHz
ASUS P4B 400MHz
256MB PC100 SDRAM
ATI Radeon 7500 128MB DDDR
Hard 5.4GB IDE 400MHz
Power Supply 400W
Case 19.5" ATX
OS: Windows 98 SE

OFFICE STAR \$439

INTEL Celeron 300MHz
ASUS P4B 400MHz
256MB PC100 SDRAM
ATI Radeon 7500 128MB DDDR
Hard 5.4GB IDE 400MHz
Power Supply 400W
Case 19.5" ATX
OS: Windows 98 SE

BEST BUY \$619

INTEL P4 600MHz PIII 400MHz
ASUS P4B 400MHz
256MB PC100 SDRAM
ATI Radeon 7500 128MB DDDR
Hard 5.4GB IDE 400MHz
Power Supply 400W
Case 19.5" ATX
OS: Windows 98 SE

POWER UPGRAD \$459

INTEL P4 600MHz PIII 400MHz
ASUS P4B 400MHz
256MB PC100 SDRAM
ATI Radeon 7500 128MB DDDR
Hard 5.4GB IDE 400MHz
Power Supply 400W
Case 19.5" ATX
OS: Windows 98 SE

SOHO P4 \$613

INTEL P4 600MHz PIII 400MHz
ASUS P4B 400MHz
256MB PC100 SDRAM
ATI Radeon 7500 128MB DDDR
Hard 5.4GB IDE 400MHz
Power Supply 400W
Case 19.5" ATX
OS: Windows 98 SE

MONITOR

17 LG 15" MON	\$45	17 LG 15" MON	\$45
17 LG 15" MON	\$45	17 LG 15" MON	\$45
17 LG 15" MON	\$45	17 LG 15" MON	\$45
17 LG 15" MON	\$45	17 LG 15" MON	\$45
17 LG 15" MON	\$45	17 LG 15" MON	\$45
17 LG 15" MON	\$45	17 LG 15" MON	\$45
17 LG 15" MON	\$45	17 LG 15" MON	\$45
17 LG 15" MON	\$45	17 LG 15" MON	\$45
17 LG 15" MON	\$45	17 LG 15" MON	\$45
17 LG 15" MON	\$45	17 LG 15" MON	\$45

HARD DRIVE

25 GB MAXTOR 5400rpm	\$45	25 GB MAXTOR 5400rpm	\$45
25 GB MAXTOR 5400rpm	\$45	25 GB MAXTOR 5400rpm	\$45
25 GB MAXTOR 5400rpm	\$45	25 GB MAXTOR 5400rpm	\$45
25 GB MAXTOR 5400rpm	\$45	25 GB MAXTOR 5400rpm	\$45
25 GB MAXTOR 5400rpm	\$45	25 GB MAXTOR 5400rpm	\$45
25 GB MAXTOR 5400rpm	\$45	25 GB MAXTOR 5400rpm	\$45
25 GB MAXTOR 5400rpm	\$45	25 GB MAXTOR 5400rpm	\$45
25 GB MAXTOR 5400rpm	\$45	25 GB MAXTOR 5400rpm	\$45
25 GB MAXTOR 5400rpm	\$45	25 GB MAXTOR 5400rpm	\$45
25 GB MAXTOR 5400rpm	\$45	25 GB MAXTOR 5400rpm	\$45

CDROM&DVD

17 LG 15" MON	\$45	17 LG 15" MON	\$45
17 LG 15" MON	\$45	17 LG 15" MON	\$45
17 LG 15" MON	\$45	17 LG 15" MON	\$45
17 LG 15" MON	\$45	17 LG 15" MON	\$45
17 LG 15" MON	\$45	17 LG 15" MON	\$45
17 LG 15" MON	\$45	17 LG 15" MON	\$45
17 LG 15" MON	\$45	17 LG 15" MON	\$45
17 LG 15" MON	\$45	17 LG 15" MON	\$45
17 LG 15" MON	\$45	17 LG 15" MON	\$45
17 LG 15" MON	\$45	17 LG 15" MON	\$45

VIDEOCARD

ATI Radeon 7500 128MB DDDR	\$115	ATI Radeon 7500 128MB DDDR	\$115
ATI Radeon 7500 128MB DDDR	\$115	ATI Radeon 7500 128MB DDDR	\$115
ATI Radeon 7500 128MB DDDR	\$115	ATI Radeon 7500 128MB DDDR	\$115
ATI Radeon 7500 128MB DDDR	\$115	ATI Radeon 7500 128MB DDDR	\$115
ATI Radeon 7500 128MB DDDR	\$115	ATI Radeon 7500 128MB DDDR	\$115
ATI Radeon 7500 128MB DDDR	\$115	ATI Radeon 7500 128MB DDDR	\$115
ATI Radeon 7500 128MB DDDR	\$115	ATI Radeon 7500 128MB DDDR	\$115
ATI Radeon 7500 128MB DDDR	\$115	ATI Radeon 7500 128MB DDDR	\$115
ATI Radeon 7500 128MB DDDR	\$115	ATI Radeon 7500 128MB DDDR	\$115
ATI Radeon 7500 128MB DDDR	\$115	ATI Radeon 7500 128MB DDDR	\$115

FAX-MODEM

3M FAX-MODEM P1100	\$15	3M FAX-MODEM P1100	\$15
3M FAX-MODEM P1100	\$15	3M FAX-MODEM P1100	\$15
3M FAX-MODEM P1100	\$15	3M FAX-MODEM P1100	\$15
3M FAX-MODEM P1100	\$15	3M FAX-MODEM P1100	\$15
3M FAX-MODEM P1100	\$15	3M FAX-MODEM P1100	\$15
3M FAX-MODEM P1100	\$15	3M FAX-MODEM P1100	\$15
3M FAX-MODEM P1100	\$15	3M FAX-MODEM P1100	\$15
3M FAX-MODEM P1100	\$15	3M FAX-MODEM P1100	\$15
3M FAX-MODEM P1100	\$15	3M FAX-MODEM P1100	\$15
3M FAX-MODEM P1100	\$15	3M FAX-MODEM P1100	\$15

SCANNER

ACER 40000000	\$59.99	ACER 40000000	\$59.99
ACER 40000000	\$59.99	ACER 40000000	\$59.99
ACER 40000000	\$59.99	ACER 40000000	\$59.99
ACER 40000000	\$59.99	ACER 40000000	\$59.99
ACER 40000000	\$59.99	ACER 40000000	\$59.99
ACER 40000000	\$59.99	ACER 40000000	\$59.99
ACER 40000000	\$59.99	ACER 40000000	\$59.99
ACER 40000000	\$59.99	ACER 40000000	\$59.99
ACER 40000000	\$59.99	ACER 40000000	\$59.99
ACER 40000000	\$59.99	ACER 40000000	\$59.99

PRINTER

EPSON Stylus Color 740	\$135	EPSON Stylus Color 740	\$135
EPSON Stylus Color 740	\$135	EPSON Stylus Color 740	\$135
EPSON Stylus Color 740	\$135	EPSON Stylus Color 740	\$135
EPSON Stylus Color 740	\$135	EPSON Stylus Color 740	\$135
EPSON Stylus Color 740	\$135	EPSON Stylus Color 740	\$135
EPSON Stylus Color 740	\$135	EPSON Stylus Color 740	\$135
EPSON Stylus Color 740	\$135	EPSON Stylus Color 740	\$135
EPSON Stylus Color 740	\$135	EPSON Stylus Color 740	\$135
EPSON Stylus Color 740	\$135	EPSON Stylus Color 740	\$135
EPSON Stylus Color 740	\$135	EPSON Stylus Color 740	\$135

CO-WRITER

3M FAX-MODEM P1100	\$15	3M FAX-MODEM P1100	\$15
3M FAX-MODEM P1100	\$15	3M FAX-MODEM P1100	\$15
3M FAX-MODEM P1100	\$15	3M FAX-MODEM P1100	\$15
3M FAX-MODEM P1100	\$15	3M FAX-MODEM P1100	\$15
3M FAX-MODEM P1100	\$15	3M FAX-MODEM P1100	\$15
3M FAX-MODEM P1100	\$15	3M FAX-MODEM P1100	\$15
3M FAX-MODEM P1100	\$15	3M FAX-MODEM P1100	\$15
3M FAX-MODEM P1100	\$15	3M FAX-MODEM P1100	\$15
3M FAX-MODEM P1100	\$15	3M FAX-MODEM P1100	\$15
3M FAX-MODEM P1100	\$15	3M FAX-MODEM P1100	\$15

NETWORKING

3M FAX-MODEM P1100	\$15	3M FAX-MODEM P1100	\$15
3M FAX-MODEM P1100	\$15	3M FAX-MODEM P1100	\$15
3M FAX-MODEM P1100	\$15	3M FAX-MODEM P1100	\$15
3M FAX-MODEM P1100	\$15	3M FAX-MODEM P1100	\$15
3M FAX-MODEM P1100	\$15	3M FAX-MODEM P1100	\$15
3M FAX-MODEM P1100	\$15	3M FAX-MODEM P1100	\$15
3M FAX-MODEM P1100	\$15	3M FAX-MODEM P1100	\$15
3M FAX-MODEM P1100	\$15	3M FAX-MODEM P1100	\$15
3M FAX-MODEM P1100	\$15	3M FAX-MODEM P1100	\$15
3M FAX-MODEM P1100	\$15	3M FAX-MODEM P1100	\$15

SOUND CARD

3M FAX-MODEM P1100	\$15	3M FAX-MODEM P1100	\$15
3M FAX-MODEM P1100	\$15	3M FAX-MODEM P1100	\$15
3M FAX-MODEM P1100	\$15	3M FAX-MODEM P1100	\$15
3M FAX-MODEM P1100	\$15	3M FAX-MODEM P1100	\$15
3M FAX-MODEM P1100	\$15	3M FAX-MODEM P1100	\$15
3M FAX-MODEM P1100	\$15	3M FAX-MODEM P1100	\$15
3M FAX-MODEM P1100	\$15	3M FAX-MODEM P1100	\$15
3M FAX-MODEM P1100	\$15	3M FAX-MODEM P1100	\$15
3M FAX-MODEM P1100	\$15	3M FAX-MODEM P1100	\$15
3M FAX-MODEM P1100	\$15	3M FAX-MODEM P1100	\$15

SPEAKER

3M FAX-MODEM P1100	\$15	3M FAX-MODEM P1100	\$15
3M FAX-MODEM P1100	\$15	3M FAX-MODEM P1100	\$15
3M FAX-MODEM P1100	\$15	3M FAX-MODEM P1100	\$15
3M FAX-MODEM P1100	\$15	3M FAX-MODEM P1100	\$15
3M FAX-MODEM P1100	\$15	3M FAX-MODEM P1100	\$15
3M FAX-MODEM P1100	\$15	3M FAX-MODEM P1100	\$15
3M FAX-MODEM P1100	\$15	3M FAX-MODEM P1100	\$15
3M FAX-MODEM P1100	\$15	3M FAX-MODEM P1100	\$15
3M FAX-MODEM P1100	\$15	3M FAX-MODEM P1100	\$15
3M FAX-MODEM P1100	\$15	3M FAX-MODEM P1100	\$15

CD-WRITER

3M FAX-MODEM P1100	\$15	3M FAX-MODEM P1100	\$15
3M FAX-MODEM P1100	\$15	3M FAX-MODEM P1100	\$15
3M FAX-MODEM P1100	\$15	3M FAX-MODEM P1100	\$15
3M FAX-MODEM P1100	\$15	3M FAX-MODEM P1100	\$15
3M FAX-MODEM P1100	\$15	3M FAX-MODEM P1100	\$15
3M FAX-MODEM P1100	\$15	3M FAX-MODEM P1100	\$15
3M FAX-MODEM P1100	\$15	3M FAX-MODEM P1100	\$15
3M FAX-MODEM P1100	\$15	3M FAX-MODEM P1100	\$15
3M FAX-MODEM P1100	\$15	3M FAX-MODEM P1100	\$15
3M FAX-MODEM P1100	\$15	3M FAX-MODEM P1100	\$15

Cool Word tools

Continued from page 68

and can't come directly from the Clip Art Gallery. However, if you have an image in the Clip Art gallery, choose it, right-click



The **Format and Shading** task pane has options for adding a range of different horizontal lines.

on it, and select **Copy**. Open your graphics software or paint program and paste it into it before saving the image as a BMP file.

It may also pay to check aspect ratio of the image you plan to use to make sure it's OK for the shape you're using. Aspect Ratio is the relationship between an image's height and its width—a perfect square has a 1:1 aspect ratio and an image that is twice as wide as it is high has a 2:1 aspect ratio. To find these measurements for any shape, including a freeform shape, right-click the shape and choose **Format AutoShape**. Select the **Size** tab, then read the dimensions from the dialogue. If an image is approximately the same aspect ratio as the shape you will be putting it into, it won't be skewed when you add it.

To add the image to the shape, right-click the shape and choose **Format AutoShape**, **Lines** and **Colors** tab. From the **Fill Color** dropdown list, choose **Fill Effects**, and fill the shape with a gradient fill, picture, or image if you want. To use an image, choose **Picture**, select **Picture**,



The Microsoft Knowledge Base contains a great menu you can use as a great example of all your tools.

then locate the image. Click **Insert**, then **OK**.

In addition to filling unusual shapes, you can fill a text box, then type text over it for an interesting effect. If the image is too dark under the text, right-click and choose **Format AutoShape**, **Colors**, **Lines** tab, and increase the value on the **Transparency** slider (the higher the value, the lighter the image will appear—disappearing entirely at 100 percent).

Although it's not possible to fill a table with a background image or a gradient, you can get the same effect if you add a text box or rectangle filled with the image or gradient behind the table. To do this, with the text box or rectangle created and filled as detailed above, right-click it and choose **Format AutoShape**, then **Layout**. Choose the **Behind** text option and drag the object so it is the same size as the table.

Picture preview

You may have noticed that choosing a filename in the **File Open** dialogue will sometimes display a small thumbnail view of the document in the preview window, whereas some other documents simply show a few lines of type.

This option is controlled by the **Document Properties**, which you can change by choosing **File**, then **Properties**. In the **Summary** tab, there is an option to **Show Preview Pictures**, which will save a preview image or small thumbnail of the first page of the file with the file itself. If selected for a file, you'll see the preview image in place of the text when you next select the file in the **File Open** dialogue.

You can enable or disable this feature on a document by document base. The current default setting for it is stored in your **Normal.dot** file so you can change it permanently for all new documents if

you open **Normal.dot** and make your change to it before saving and closing the file again.

Wrapping text around clip art

When you insert an image or clip art into your document you can set Word to wrap the text around the image by selecting the image and choosing a **Text wrapping** option from the picture toolbar.

If you choose the right option, the text will wrap closely around the image, even if the image shape is circular or triangular. The image is buffered by a special wrapping shape that is drawn around it.

This shape can be edited. To do this, click the shape and choose **Edit Wrap Points** from the **Text Wrapping** options on the **Picture** toolbar. The nodes that affect the text flow will appear and you can drag them with your mouse in or out to change the wrap shape. Click on the line in any position and you can add a node. To remove a node, hold the **Control** key as you click on the node.

You can also alter the wrap points on photos and other types of images so you can, for example, create shaped text over the top of a photograph.

Linking text boxes

One feature that recent versions of Word have borrowed from desktop publishing software is the ability to create text boxes that can be linked together so text flows from one to the next.

This is useful for newsletters, allowing a story to start on one page and continue on another. To link text boxes, you must first create them and export text into the box in which you want the story to start. Select the text in the first text box and click the **Create Text Box Link** button on the **Text Box** toolbar. The pointer will change to an upright pointer, after which

Continued on page 87

\$ 5.95 / month

• 20MB Bonus offer

Featuring

- 30MB of web storage • Audio & video streaming supported
- 5 real email accounts • unlimited virtual email accounts
- PHP/ASP/ColdFusion/JSP/Java supported • NO SETUP FEE*
- No charge for multiple domains hosting • 14 days money back guarantee

Visit <http://www.ehosting.ca> and sign up today!

EHOSTING.CA



Platform News

Macintosh • Linux • Windows • Palm • Emerging Trends

Faster components make faster computers

By Sean Carroll

It's no surprise that every time you turn around, there's a newer and faster processor on the market. But while processors get more of the publicity, the speed and quality of other components that make up a typical computer are also improving. Here's some of what's new.

Processors get later

AMD Athlon XP 2300+. Continuing its performance-based reinvigoration, AMD has introduced the newest of its processors, the 1.73 GHz Athlon XP 2300+. The processor is simply a speed step in the Athlon XP line, and offers no new technology over the 2000+. The only thing you'll notice is that the original packaging is now AMD corporate green instead of the brownish colour sported by previous Athlon XP processors. The processor is available in Socket A format, and runs on a 260 MHz front-side bus. The processors will cost US\$470 in quantities of 1,000.

Other AMD products. AMD has also introduced a new multiprocessor version of the 2000+, dubbed the Athlon MP 2000+, which is designed for higher-



Intel Pentium 4 Processor

end workstations. Though the Athlon MP 2000+ can be used by itself, its design allows it to handle a greater processing load, and it's more expensive than the Athlon XP 2000+ single CPU (US\$415 versus US\$339 for the single, both in 1,000 quantities). There's also a new mobile processor in the AMD lineup, the Athlon 4 1600+, which will check in at a price of US\$380 in quantities of

1,000. The Athlon 4 is a speed step from the previous 1500+ model, and continues to offer AMD PowerNow! technology for longer battery life.

Going to 0.135 microns. There's also been a buzz about the next-generation Athlon, which will finally make the leap to a 0.13-micron manufacturing process (the current generation of processors

Continued on page 54

Motherboard redux

An update on the mother of all components

By Sean Carroll

Since we last looked at motherboards in the December 2001 issue, there have been a few developments and new products worth noting. As before, we divide the products into those designed for Athlon and those designed for Pentium processors.

Athlon motherboards

Because testing for this report began before the faster 2100+ chips were available, we tested all boards with the Athlon XP 1900+, the processor we started our testing with. Of course, if you used the newer 2000+ or 2300+ processors, scores would be slightly higher.

All the boards were loaded up with 256 MB of the appropriate type of RAM (the DDR came from Crucial, conventional), and PC133 SDRAM was supplied by Kingston (www.kingston.com).

IBM KIVA-S40

From Rod Ltd
www.rod.com

Continued on page 74

Fans Pc

871 Pacific Mall, A400 British Columbia, Canada
Tel: (604) 123-4567, Fax: (604) 123-4567

Web Site: www.fanspc.ca
Email: info@fanspc.ca
800-333-3333

SPECIAL

Perhaps Motherboard
Logitech mouse products
Chinese Version Games
Blank CD/DVD Case
Printer Cartridges

Price always 3% cash discount
& subject to change without notice

\$399	\$389	\$699	\$868	\$868
AMD Duron 800 Frontier MB10 128 pc133 RAM 256 ATA-100 HDD 48X CD-Rom/DVD 22MB ONBOARD Video 16BIT ONBOARD Sound Integrated 10/100 NIC 8MB 3.5" Floppy ATX 300W Case Win98 SE/MS Office/Internet	VIA V40 Pro VIA V1125 128 pc133 RAM 200 ATA-100 HDD 32X CD-Rom/DVD 8MB ONBOARD Video 16BIT ONBOARD Sound Integrated 10/100 NIC 8MB 3.5" Floppy ATX 300W Case Win98 SE/MS Office/Internet	PENFAM 4.1 GHz ASUS P4333 Pro 256 pc133 RAM 300 ATA-100 HDD 32X CD-Rom/DVD 48MB ONBOARD Video Av77 Audio Onboard NIC 10/100 8MB 3.5" Floppy ATX 300W Case Win98 SE/MS Office/Internet	INTEL P4 1.4 GHz MSI M6888 Pro 256MB DDR 40GB 7200RPM 14X DVD-Rom/DVD Onboard 2 M.2 40GB Creative SB 5.1 Creative T15100 SAC Modem ATX 300W Case Win98 SE/MS Office/Internet	MSI P41T MSI K7M Pro 256 pc133 RAM 40GB 7200RPM 14X DVD-Rom/DVD Onboard 2 M.2 40GB Creative SB 5.1 Creative T15100 SAC Modem ATX 300W Case Win98 SE/MS Office/Internet
NOTEBOOK	NOTEBOOK	NOTEBOOK	NOTEBOOK	NOTEBOOK
PC1 BUDDY \$1850 Pentium 4 1.5 256 DDR/20G HDD 15" TFT LCD USB2, CD/DVD, FireWire	DIGITAL CAMERA PIONEER 16M... Logitech 161040 LG 241040 LG/SONY 321040 SAMSUNG 16K DVD S&K ADAPTER	NETWORKING \$66 3000 8PORT HUB \$156 3000 SPORT SWITCH \$152 3000 215 4MB W/O \$130 PCMCIA 10/100 NIC \$80 Network 10/100 NIC \$42 100 Test Network	KEYBOARD \$32 PCI TWT 32M \$44 35 305 32M \$152 3000 215 4MB W/O \$48 7200RPM 16MB \$11 35 7500 4MB \$26 48 8500 4MB	MONITOR \$73 17" CRT \$35 17" ASIAVIEW \$69 SAMSUNG 7830R \$48 17" 774M \$275 20" 774M \$150 20" 774M \$480 20" 774M

How's your web host?

Getting the most features for your dollar? Getting help from people who actually know their stuff?

KORAX has provided web services for small, medium, and enterprise level organizations around the world since 1996. Our hallmarks are our expertise in multiple platforms, our multi homed, multi redundant fibre optic network, and our superior customer care.

Make sure your business or organization is in the right hands. Call us today.



Web hosting

Up to 500 MB
unlimited e-mail
PHP, MySQL, ASP.NET

from

\$15*

Domains

Registration of .com,
.net, .org, .co, .biz,
.info, and others

from

\$20

Server Co-location

from \$170

Managed Hosting

from \$395

Co-managed Hosting

from \$295

web hosting managed hosting server co-location domain registration SSL certificates

1.877.567.2963

www.korax.com

the web host for business



KORAX

*Not all features available with all packages. See web site for complete details.

- Socket A
 - Compatible with Radeon and Duron
 - One AGP slot and two PCI slots
 - Four slots for DIMM SDRAM
 - Highpoint AA100 RAID controller
 - onboard S1 audio (includes headset for sub-woofer) and gameport.
 - Bracket included for two additional VGA ports.
- The Spazowulfbar is also back around Via's KT266A chipset, but it turns in a better score than the others, something Shuttle takes note of. The configuration looks pretty good, with

lots of PCI and RAM slots, as well as onboard audio and a RAID controller. If you have a problem, it may be finding these boards at retail, as the distribution in Canada can be a bit sparse.

Sony K7V DRAGON Plus

- From: Sony Computer Inc.
www.sony.com
 Internet content creation 120
 Office productivity 175
 Graphics 200
 • VIA Apollo KT266A chipset.

- Socket A
 - Compatible with Athlon and Duron
 - Three slots for DDR SDRAM
 - One AGP and four PCI slots
 - Two RAID controllers
 - Onboard 10/100 Ethernet
 - Onboard S1 digital audio
- We looked at the Sony K7V DRAGON last time around, and this is a refinement of the previous version. As before, the DRAGON stands for the features on the board (DDR, RAID, audio, graphics, overlocking, and networking). It pro-

vides pretty solid performance all around, and the DRAGON features add up to a pretty good all-in-one value.

Sony SY-K7VIA Pro

- From: Sony Computer Inc.
www.sony.com
 Internet content creation 150
 Office productivity 190
 Graphics 150
 • VIA Apollo KT266A chipset

Continued on page 77



CoolPad

The ultimate, adjustable, sliding viewing, notebook reading protect. And it's comfortable to use!



Available in Black and Silver

As a lifetime member to CoolPad

Provided lifetime... Advanced Protection Systems... independent power company... other... with a unique combination of... resistance... shock absorption... and most notably... protection against... and... protection against... and...

APC Studio Case \$29.95

APC Photo Case \$39.95

Shop online or call our toll free order line: 866-352-0505
www.coolpad.com email: sales@coolpad.com
 CoolPad is a 100% Canadian Owned. Reseller inquiries welcomed.

Multi-Fan Power Supply

Best Choice For Today's Computer



800-2V-TOP-350P-1
350 Watt

Instant Factory Rebate

Exclusive AC Outlet



AMD Recommended
<http://www1.amd.com/canada/canada>

800-2V-TOP-350P-1
350 Watt

JC Computech Inc.
 Toronto • Los Angeles • Miami • Brazil
 A Quality Computer Parts Wholesale Distributor

105 Pinesville Drive Unit 8 Markham, Ontario L3R 5J7
 Tel: (905) 940-9410 Fax: (905) 940-9766
www.jccomputech.com

FOR DEALERS ONLY

MICROSURPLUS INC.

2200 SHEPPARD AVENUE EAST, SUITE 100, SCARBOROUGH, ONTARIO M1S 4T6

TEL: (416) 291-1841 FAX: (416) 291-1841

NOTEBOOKS

Model	Processor	RAM	Hard Drive	Price
HP Pavilion 1000	Pentium III 600MHz	64MB	5.0GB	\$399.99
HP Pavilion 1000	Pentium III 600MHz	64MB	5.0GB	\$399.99
HP Pavilion 1000	Pentium III 600MHz	64MB	5.0GB	\$399.99

Hard Drive

Model	Capacity	Price
Maxtor 6L040A0	4.0GB	\$29.99
Maxtor 6L080A0	8.0GB	\$39.99
Maxtor 6L160A0	16.0GB	\$49.99

Desktop PCs

Model	Processor	RAM	Hard Drive	Price
HP Pavilion 1000	Pentium III 600MHz	64MB	5.0GB	\$399.99
HP Pavilion 1000	Pentium III 600MHz	64MB	5.0GB	\$399.99
HP Pavilion 1000	Pentium III 600MHz	64MB	5.0GB	\$399.99

CALL (416) 291-1841

COMPUTER MEGA MADNESS SALE

15th April - 30th April 2002

New Computer Systems

Intel Pentium 4 1.6 Ghz System
\$ 879.00

AMD Athlon XP 1700 System
\$ 879.00

Intel Celeron 1.0 Ghz System
\$ 759.00

VIA C3 1 Giga ProSystem
\$ 659.00

All New Systems Contain

17" Monitor, 16x16x8 CD-RW, 48 GB Harddrive, 54k Modem, 128 MB Ram, 48 MB Video, 18100 Ethernet Lan, FDD144, Two USB Ports, Color Audio, Game Port, Speakers, Keyboard & Mouse, OS Extra

Software Bundle

MS Office, Microsoft Outlook, Internet Explorer, McAfee Virus Protection, Norton Virus Protection, World Wide Web, Video File Tools & 1 Step.

WIN SUPPORTER

SPEAKERS \$25.00

WIN REPROOFER

SPEAKERS \$45.00

LG CD-RW

32x10x40 \$159.99

6MB DOR Win V9 DKT

\$ 199.99

Upgrade Your Old Computer To

Intel Pentium 4 1.6 Ghz	AMD Athlon XP 1700	Intel Celeron 1.0 Ghz	VIA C3 1 GigaPro
\$ 399.00	\$ 399.00	\$ 249.00	\$ 179.00

SUPER COMPUTER CENTRE

Sales • Service • Rental of Computers

Capacity • Office • Home • Business

Tel: (416) 766-7000 / (416) 732-7001

Unit 8-101 Varsity Park Ave. Scarborough, ON M1S 2G6

Hours: 10:00am - 6:00pm, 10:00am - 6:00pm, 10:00am - 6:00pm

AccessVantage

INTERNET SERVICE PROVIDER

56K V90 Dial Up Service

Lite - 10 Hours

\$4.95 /Month

2 Free Months with yearly prepayment

Basic - 60 Hours

\$9.95 /Month

2 Free Months with yearly prepayment

Unlimited (based on internettest use)

\$13.95* /Month

* with yearly prepayment at activation

DSL High Speed Service

Residential Service

\$19.95* /Month

Business Service

\$55.95* /Month

* Promotional price for the first three months for one year contract. Modem rental extra.

Limited time special. All taxes extra.

專業網路服務及支援

Tel: (416) 773-0338 Fax: (416) 773-0339 www.accessv.com

3650 Victoria Park Avenue, Suite 303, Toronto, Ontario M2H 3P7

Email: info@accessv.com

Toronto • Vancouver • Montreal • Ottawa • Calgary

Motherboard review*Continued from page 75*

- Compatible with Athlon and Duron
- Three slots for DDRAM
- One AGP slot, and five PCI slots
- Onboard AC97 audio
- Jumper preconfigured for Duron (200 MHz front-side bus)

Taking a look at the SDRAM side of the equation, we have this board. Because it's

an SDRAM board it comes pre-jumpered for use with a Duron chip (the reasoning being that Athlon users will want to use a DDR board), but you can swap in an Athlon easily enough. As expected, the performance drops fairly noticeably when you team up the Athlon with SDRAM, but the performance is still pretty good. The board comes with onboard audio, and still features one ISA

slot for use with older add-in cards.

Tyan Trinity KT-A

From: Tyan Computer Corp.

www.tyan.com

- | | |
|---------------------------|-----|
| Internet content creation | 162 |
| Office productivity | 161 |
| System 200 | 160 |
- VR Apollo GT133A chipset
 - Socket A
 - Three slots for SDRAM
 - One ISA, one AGP, and six PCI slots
 - No onboard audio
 - Compatible with both Athlon and Duron
 - Jumper preconfigured for Duron (200 MHz front-side bus)

Another look at the SDRAM side of Athlon. Tyan's Trinity KT-A also comes pre-jumpered for Duron, but it's easy enough to set it up for Athlon too. The performance here is a bit better than the Soso board, but still markedly lower than a DDR board. This one skips the onboard audio but adds another PCI slot, as well as including an ISA slot for older cards. If you need to stick with SDRAM or require at least one ISA slot, this board certainly looks good.

Pentium 4 motherboards

Again, as these tests were done over the span of a few months, all boards were tested with the older Williams 2 GHz Pentium 4. Moving up to any of the Northwood-based CPUs (2.0, 2.2, or 2.4 GHz) would increase these benchmarking numbers accordingly. All boards were tested with 256 MB of the appropriate type of memory: both PC800 SDRAM and PC133 SDRAM came from Kingston, and Crucial supplied the 266 MHz DDR.

Abs THW-BAD

From: Abs Ltd.

www.abs-isa.com

- | | |
|---------------------------|-----|
| Internet content creation | 154 |
| Office productivity | 158 |
| System 200 | 171 |
- Intel P4M chipset
 - Socket 462
 - Four slots for SDRAM
 - One AGP slot with retention clip (for PCI) and one CBR slot
 - Includes Ath's own (not Intel) 100 MHz BAD (two sockets)

Continued on page 78

Motherboard review

Check the settings!

One of the boards we used this time around, though so fault of its own, helped illustrate something we know instinctively but don't think about until it jumps up and bites us: even a slight misconfiguration in your Windows installation or BIOS settings can compromise performance. Our test bench uses an LS-120 drive instead of a floppy, and we typically turn off all unwanted components (serial ports, gameport, etc.) to achieve best performance during benchmarking. At one point during our setup we had to clear the CMOS, erasing those settings and going back to the board's defaults, which wasn't caught. Although everything looked fine during Windows and Symantec setup, we were getting consistently bad benchmarking results. When we caught the problem, re-installed everything, and re-tweaked the system, the scores went up 30 points. Though it was an annoyance, it's a good lesson for anyone who is building a system: make sure you have everything configured for efficiency, or you may be sacrificing system performance!

—Sean Connolly

SUNNY COMPUTERS LTD.

We provided the following services to our customers:

- System Upgrade
- Network Consulting
- Web Page Design
- Software Configuration
- And much much more!!!



Phone: (905) 479-1289 Fax: (905) 479-1211

Please come and visit us, we sell all kinds of PC systems and Parts!
 Website: www.sunnycomputers.com E-mail: sales@sunnycomputers.com
 Address: Unit E30, Pacific Mall, 4300 Steeles Ave East, Markham ON L3R 9Y9
 Tel: (905) 479-1289 Fax: (905) 479-1211

PHOTO: TONY HARRIS

geek street.ca

everything geek in the GTA and beyond

Visit the Ultimate
GTA Computer Store
Directory

It's all you need online, and more

Game Center • Security News & Tools • IT News & Announcements • Logo Design • Web Design • Free Downloads

Visit our shop source for IT info. Visit: www.geekstreet.ca

The most recognized symbols of Digital Video Editing in Canada

matrox
Digital Video Solutions

canopus

PRIMA
LITE

DPS

Adobe

Medea

Avid



Specialist in Digital Video HD Encoding systems, Video capture cards, DVC software, Digital Camcorders, Digital cameras and more...

Please call and visit our Web page

1-866-DCC-1108 www.dccetek.com



All trademarks are the property of their respective holders

DCC Technologies
Digital Video Solutions

145-4471 No. 6 Road, Richmond, B.C. V6V 1P8
 email: info@dccetek.com Fax: 604.821.8873

Feel Confident Amidst Chaos

Securus
Technologies



SCP Security Certified Program
THE FBI ACADEMY

SCP Security Certified Program
INTERPOL

SCP Security Certified Program
NORAD

Verify Your Security Knowledge

One month of education to secure your future

Classes are starting now - Only 8 seats available
Call 905-884-6164

SecurityCertified.Net

< PLATFORM NEWS >

Motherboard redux

Continued from page 77

- Onboard AGP audio graphics available on integrated board.
- Requires IDE, LV, and AGP power connectors.
- Built-in POST code display LED for troubleshooting boot errors.
- Three onboard USB ports.

The T1070-R4ID is one of Abit's Pentium 4 boards, and while it looks pretty modest in most respects, one thing that stands out immediately is the little LED POST-code display, which indicates the status of the system. This is especially helpful if you're not sure what the error is. If you know why the board may not be booting properly, which will save time, especially if you're a system builder and time is at a premium. The only problem this one has more than RAM is the BIOS. ROMAM shows its performance benefits over SDRAM and DDR at higher clock speeds, and this board comes through, running in the best score of the Pentium 4 boards this month.

AGPex A4M5 Pro

From AGPex, Inc.
www.agpex.com

Internet content creation

Continued from page 77

Remark 100

- Intel i845 chipset
- Socket 478
- One AGP slot with retention clip, as well as one CWR and five PCI slots
- Onboard AGP audio and parallel
- Three slots for SDRAM
- Requires IDE, LV, and AGP power connectors
- Front-side bus can be overclocked from 400 MHz to 900 MHz (could be handy for turbo-charging processors using a higher bus speed)

Again, you can see the performance differences when you drop down to standard SDRAM by looking at this board's scores. They're still OK, but the off-chip productivity component takes a pretty substantial slide when compared to the scores being generated by the Athlon XP processors. They're not far off the DOR-generated Pentium 4 scores, though. The configuration of the slots is pretty standard, though the overavailability of the bus may make this one worth a closer look for the end enthusiasts.

Intel D4040E

From Intel Corp.

Continued on page 81

DyTech Computers (Retail)

EverChannel (Wholesale)

Mon - Fri 11:30 - 7:30, Sat & Sun 12 - 5

Richmond Hill:

#130, 550 Hwy 7 East
Tel: (905) 709-5799
Wednesday Closed

Leslie

#17 E.

Scarborough:

2931 Lawrence East
Tel: (416) 292-7738
Wednesday Closed

Lawrence

#17 E.

North York:

789 Lawrence West
Tel: (416) 751-7738
Tuesday Closed

Lawrence

#17 E.

For more saving & options, check daily updated www.DytechComputers.com

T-Raid 500 \$499

T-Raid 1.3GB \$539

AthlonXP1700 \$579

EC5 KT300A Board/MiniHD
10MM DDR / 256M SDRAM / 4200
C-23 32M AGP video
200 TeraByte / 1.44M FD
ATX 300W Case / CDROM
8MB Fax Modem
Sound & Lan on board
Compact Internet Keyboard
PS/2 Serial Mouse
160W Power

Intel P4 1.30 \$659

Intel P4 1.70 \$699

Intel P4 1.80 \$739

EC5 P430A Mainboard
10MM DDR / 256M SDRAM / 4200
C-23 32M AGP video
200 TeraByte / 1.44M FD
ATX 300W Case / CDROM
8MB Fax Modem
Sound & Lan on board
Compact Internet Keyboard
PS/2 Serial Mouse
160W Power

Intel P4 1.50 \$669

Intel P4 1.70 \$709

Intel P4 1.80 \$749

Asus P4B53-M Board
10MM DDR RAM
C-23 32M AGP video
200 TeraByte / 1.44M FD
ATX 300W Case / CDROM
8MB Fax Modem
Sound & Lan on board
Compact Internet Keyboard
PS/2 Serial Mouse
160W Power

Special

Guru 550 \$479

T-Raid 500 \$499

T-Raid 1.30 \$539

EC5 or Apacer Motherboard
10MM SDRAM PC133
C-23 32M AGP video
200 TeraByte / 1.44M FD
ATX 300W Case / CDROM
8MB Fax Modem
Sound on board / Speaker
Compact Internet Keyboard

Intel P4 1.30 \$739

Intel P4 1.70 \$779

Intel P4 1.80 \$819

Gateway P4 Mainboard
10MM SDRAM PC133
C-23 32M AGP video
200 TeraByte / 1.44M FD
ATX 300W Case / CDROM
8MB Fax Modem
Sound on board / Speaker
Compact Internet Keyboard
PS/2 Serial Mouse

Intel P4 1.30 \$809

Intel P4 1.70 \$849

Intel P4 1.80 \$889

Asus P4T-M Board
10MM SDRAM PC133
C-23 32M AGP video
200 TeraByte / 1.44M FD
ATX 300W Case / CDROM
8MB Fax Modem
Sound on board / Speaker
Compact Internet Keyboard
PS/2 Serial Mouse

Intel P4-1.7 \$1009

Intel P4-1.8 \$1049

Intel P4-1.8 \$1119

Asus P4T-M Board
10MM SDRAM PC133
C-23 32M AGP video
200 TeraByte / 1.44M FD
ATX 300W Case / CDROM
8MB Fax Modem
Sound on board / Speaker
Compact Internet Keyboard
PS/2 Serial Mouse

Upgrade Combo \$299

Asus M4100P
256M SDRAM
1.5GB 1.5GB CPU
CD/DVD Cooling Fan

Optical Mouse \$19.99

Optical Mouse
\$19.99

LevyTech Devices

Compact Mouse \$19.99

Compact Mouse
\$19.99

EC5 Laptop

100MHz

14" TFT
160180
Lan / Modem / 4 USB

Athlon Kp1700 \$749

Athlon Kp1900 \$799

Athlon Kp1900 \$819

Asus K1700P Mainboard
10MM SDRAM PC133
C-23 32M AGP video
200 TeraByte / 1.44M FD
ATX 300W Case / CDROM
8MB Fax Modem
Sound on board / Speaker
Compact Internet Keyboard
PS/2 Serial Mouse

Athlon Kp1800 \$829

Athlon Kp1900 \$889

Athlon Kp2000 \$879

Asus K1900P Mainboard
10MM SDRAM PC133
C-23 32M AGP video
200 TeraByte / 1.44M FD
ATX 300W Case / CDROM
8MB Fax Modem
Sound on board / Speaker
Compact Internet Keyboard
PS/2 Serial Mouse

Intel P4-1.8 \$879

Intel P4-1.7 \$819

Intel P4-1.8 \$889

Asus P4B53-M Board
10MM SDRAM PC133
C-23 32M AGP video
200 TeraByte / 1.44M FD
ATX 300W Case / CDROM
8MB Fax Modem
Sound on board / Speaker
Compact Internet Keyboard
PS/2 Serial Mouse

Monitors

17" Refurbished \$139
17" Samsung 1302 \$159
17" Samsung 1302 \$159
17" KDS v80 \$199
17" KDS v80 \$199
17" KDS v80 \$199
17" KDS v80 \$199
17" KDS v80 \$199
17" KDS v80 \$199
17" KDS v80 \$199
17" KDS v80 \$199
17" KDS v80 \$199

DVD & CDROM

LG 20" 10" \$139
LG 20" 10" \$139
LG 20" 10" \$139
LG 20" 10" \$139
LG 20" 10" \$139
LG 20" 10" \$139
LG 20" 10" \$139
LG 20" 10" \$139
LG 20" 10" \$139
LG 20" 10" \$139
LG 20" 10" \$139
LG 20" 10" \$139

Hard Drives

MBQ 1000
2000 1400 \$105 / 110
2000 1400 \$105 / 110
2000 1400 \$105 / 110
2000 1400 \$105 / 110
2000 1400 \$105 / 110
2000 1400 \$105 / 110
2000 1400 \$105 / 110
2000 1400 \$105 / 110
2000 1400 \$105 / 110
2000 1400 \$105 / 110
2000 1400 \$105 / 110
2000 1400 \$105 / 110

Network Card

17" TFT 200 / 1000 LAN
256M DDR, Memory Up
Pent 4 Intel P4-1.8 \$1179
or Intel P4-1.8 \$1179

A Tech Edge for Small Business

Do you work in Small Business? If so, would you like to receive Small Office Technology, Canada's Computer Paper Inc.'s free magazine about technology and solutions? Just fill out the form below, or complete the form online at smallbizcomputers.com/sa/saform.asp

Part 1: Descriptions

Name _____ Title _____
 e-mail address _____
 Number of people reporting to you _____
 Level of influence in purchasing decisions ☐ make decision ☐ specify ☐ recommend ☐ none
 Address to whom you send your cases of Small Office Technology sent _____

About your business

Is your location a sub-office of a larger company? ☐ Yes ☐ No

Annual revenue ☐ less than \$100,000 ☐ \$100,000 to \$249,999 ☐ \$250,000 to \$499,999 ☐ \$500,000 to \$999,999 ☐ \$1 million or more

What is type of hardware do you have at your facility
or external purchase or lease or rent?

Computations	No. observed	No. shared	ROI Reg. at 10%	ROI Reg. at 15%
Windows desktop computers				
Windows notebook computers				
Macintosh desktop computers				
Macintosh notebook computers				
Windows servers				
Macintosh servers				
UNIX/Solaris servers				
IBM/AS/400 systems				
Windows 2000/XP servers				
Office equipment				
Peripherals: Fax Machines				
Peripherals: Printers/Scanners				
Peripherals: Servers				
Networks: Server class products				
Colours: Large printers				
Other: Other miscel.				
Overseas (U.S., U.K., Japan, etc.)				

Part 3 Software

Which operating systems are used at your location? (Check all that apply)

- ☐ Microsoft: MSN
☐ Macintosh
☐ Linux
☐ Windows 2000/NT
☐ Novell: Samba
☐ Other:

None indicates which software applications you own or intend to purchase.

[illegible]

Mail completed form to:

The Computer Paper Small Business
606-625 Church Street
Toronto, Ontario
M4Y 2G1

Or complete this form online at

www.canadacommunities.com/smallbusiness

Part 2: Hardware

Networking

Do you have a network or networks installed? ☐ Yes ☐ No

If Check-ones, which network operating system do you use:

☐ Windows ☐ Netware ☐ Macintosh

☐ Linux ☐ Unix or other ☐ Wireless Networking

Have you installed or do you intend to install an 802.11 wireless LAN? ☐ Yes ☐ No

Source:

	Installed	Wanted to install in '02
File identification		
Programmed readers		
Facial scanning		
Voice identity		

Do you physically secure computers and office equipment:
Cable locks ☐ Yes ☐ No Other physical devices ☐ Yes ☐ No

	Male	Sex not known	Interval in days at 10
Standard cellular phone			
Miniature cellular phone			
Bar code papers			
Blueberry			

Part 4: Conclusions

internationale

Do you have a recreational interest animal?	yes	no	interest to keep in '02
Companion CMA			
Business (B,S)			
Companion Cattle-Medium			
Business Cattle-Medium			
(C,M)			
11 or other ()			

Do you have multiple computers connected via an Internet sharing device? ☐ Yes ☐ No
Business Internet

Do you have a business web site? ☐ Yes ☐ No

If yes, it contains info. a priority for 2002? ☐ Yes ☐ No

Server has a content capability? ☐ Yes ☐ No

Do you have a business banking account? ☐ Yes ☐ No

Do you have a business credit card? ☐ Yes ☐ No

Does your business participate in loyalty programs (see for details)? ☐ Yes ☐ No

Online version

Which online services do you intend you will use?	Yes	Don't use	Need more info
Buying office supplies			
Leasing office equipment/computers			
Travel (flight, hotel, car rental etc.) booking			
Online business banking			
Legal services (contracts, incorporation etc.)			
Accounting services			
Recruiting			
Business portals (e.g. B2Bline, Biz Source)			

Motherboard redux

Continued from page 78

www.abit.com

Internet control system	152
Office productivity	152
Sumrak 2001	156

- Intel i845 chipset
- Socket 478
- One AGP and six PCI slots
- Onboard SoundMAX audio
- Four USB ports
- Onboard 10/100/1000 Ethernet
- Two slots for DDR SDRAM
- Requires ATX and 12V power connectors

Intel's new i845-based chipset for the Pentium 4 is finally here, and this new board incorporates that chipset. Fittingly, the Intel board is the one that gives the i845RAM board the best run for its money, turning in a score that's so close that it's within grasping distance. The inclusion of audio and Ethernet is a nice touch, as well as a full four USB ports. Those looking for good performance and maximum compatibility will find a compelling solution here.

Intel i845

From: Intel USA Corp.

www.intel.com

Internet control system	150
Office productivity	148
Sumrak 2001	154

- Intel i845 chipset
- Socket 478
- Three slots for SDRAM
- One AGP and six PCI slots
- Onboard Digital 5.1 audio, and onboard comes with loader for surround and subwoofer
- Camport included
- IDE cables come with pull-ties for easy removal without touching the wires inside
- Requires ATX, 12V, and ATR power connectors
- Built works with Pentium 4 chips too, and this one provides reasonable if not exactly stellar performance. It's another i845RAM board, which is why the scores are a bit lower, but the configuration is pretty good, and well thoughtfully provides extremely well designed IDE cables (they have pull tabs that allow you to remove the cable from the socket on the motherboard without having to see—and potentially damage—the fragile wires inside). Again, Intel's automatic driver install is very handy.

MSI 645 Ultra333

From: MSI Computer Corp.

Continued on page 82

Motherboard redux

Legacy free: Abit MAX cuts past ties

There's been talk of the legacy-free motherboard for quite a while now, but very few manufacturers have had the guts to truly follow through. There's always been a worry that getting rid of all the older connectors might upset those who want to use an old printer or modem with the new system.

With the release of its new MAX motherboard line, Taiwan's Abit Computer (www.abit.com.tw) is denouncing the tape-does-and-going full steam ahead.

The MAX series is designed to bring the best new technologies onto one motherboard. It eliminates both PS/2 connectors and serial ports, substituting multiple USB 2.0 ports for connecting to printers, keyboards, mice, and modems.

Three FireWire ports are also built into the board, for connecting digital video cameras or external drives.

In addition to the two standard IDE channels, the MAX will also include four-channel ATA/133 RAID, allowing a total of

12 IDE devices to be connected directly to the board.

The i845 version of the board, the AT7, will support up to four slots of PC2700 (333 Mhz) DDR SDRAM, while the Pentium 4 version of the board, the IT7, will handle only three sticks of PC2700 DDR.

One port for 10/100 Mbps Ethernet will also be built into the board. SoundMax audio is built into the board, including optical i/o.

There will also be an optional front-panel, i845 interface available for the boards, which adds two USB 2.0 ports, as well as support for Sony's Memory Stick, Panasonic SD cards, and standard CompactFlash cards. The interface will include a headphone and microphone port as well as SPDIF i/o.

The AT7 is expected to be available by the time you read this, with the IT7 following in late May or June.

—Sean Connolly

U Computers Inc.

4982 Sheppard Ave. E. Unit 101, Scar.
www.ucampus.com
ucampus@yahoo.com 416-293-9933

SPECIAL 1000

ALL BUILT FOR YOU!
Intel Pentium 4 Processor
1.5GHz CPU
1GB DDR SDRAM
30GB Hard Drive
DVD-ROM Drive
Case & Power Supply
Operating System
Windows XP Home Edition
\$1,099

INTEL P4-1.6G

Intel Pentium 4 Processor
1.6GHz CPU
1GB DDR SDRAM
30GB Hard Drive
DVD-ROM Drive
Case & Power Supply
Operating System
Windows XP Home Edition
\$1,199

MAX 1000 HIGHER END

Intel Pentium 4 Processor
1.6GHz CPU
1GB DDR SDRAM
30GB Hard Drive
DVD-ROM Drive
Case & Power Supply
Operating System
Windows XP Home Edition
\$1,299

VIDEO CARD

ATI Radeon 9700 Pro
NVIDIA GeForce 256
ATI Radeon 9700 Pro
NVIDIA GeForce 256
ATI Radeon 9700 Pro
NVIDIA GeForce 256

SCANNER & PRINTER

HP ScanJet 4500C
HP LaserJet 1015
HP LaserJet 1015

AMD DURON 1.3G

AMD Duron Processor
1.3GHz CPU
1GB DDR SDRAM
30GB Hard Drive
DVD-ROM Drive
Case & Power Supply
Operating System
Windows XP Home Edition
\$1,099

AMD 1900+ XP

AMD Duron Processor
1.9GHz CPU
1GB DDR SDRAM
30GB Hard Drive
DVD-ROM Drive
Case & Power Supply
Operating System
Windows XP Home Edition
\$1,199

INTEL P4-1.6G

Intel Pentium 4 Processor
1.6GHz CPU
1GB DDR SDRAM
30GB Hard Drive
DVD-ROM Drive
Case & Power Supply
Operating System
Windows XP Home Edition
\$1,199

VIDEO CARD

ATI Radeon 9700 Pro
NVIDIA GeForce 256
ATI Radeon 9700 Pro
NVIDIA GeForce 256
ATI Radeon 9700 Pro
NVIDIA GeForce 256

SCANNER & PRINTER

HP ScanJet 4500C
HP LaserJet 1015
HP LaserJet 1015

AMD 1700+ XP

AMD Duron Processor
1.7GHz CPU
1GB DDR SDRAM
30GB Hard Drive
DVD-ROM Drive
Case & Power Supply
Operating System
Windows XP Home Edition
\$1,099

INTEL P4-1.6G

Intel Pentium 4 Processor
1.6GHz CPU
1GB DDR SDRAM
30GB Hard Drive
DVD-ROM Drive
Case & Power Supply
Operating System
Windows XP Home Edition
\$1,199

VIDEO CARD

ATI Radeon 9700 Pro
NVIDIA GeForce 256
ATI Radeon 9700 Pro
NVIDIA GeForce 256
ATI Radeon 9700 Pro
NVIDIA GeForce 256

SCANNER & PRINTER

HP ScanJet 4500C
HP LaserJet 1015
HP LaserJet 1015

COMPUTER

ALL BUILT FOR YOU!
Intel Pentium 4 Processor
1.5GHz CPU
1GB DDR SDRAM
30GB Hard Drive
DVD-ROM Drive
Case & Power Supply
Operating System
Windows XP Home Edition
\$1,099

COMPUTER

ALL BUILT FOR YOU!
Intel Pentium 4 Processor
1.5GHz CPU
1GB DDR SDRAM
30GB Hard Drive
DVD-ROM Drive
Case & Power Supply
Operating System
Windows XP Home Edition
\$1,099

COMPUTER

ALL BUILT FOR YOU!
Intel Pentium 4 Processor
1.5GHz CPU
1GB DDR SDRAM
30GB Hard Drive
DVD-ROM Drive
Case & Power Supply
Operating System
Windows XP Home Edition
\$1,099

CompuPro Solutions Inc.

We sell and service notebooks! All notebooks come with 90 day warranty

IBM 770 P200	13.3" TFT/64/3.0/CD/DVD/No Battery	\$460
IBM 390 P123512	11" TFT/64/3.0/CD/DVD/3-Cells/56K	\$699
DELL CP P233	13.3" TFT/64/3.0/CD/DVD/4-Cells/56K	\$699
Compaq E500	14.4" TFT/64/3.0/CD/DVD/4-Cells/56K	\$1200

IBM 77000	12.1" TFT/64/3.0/CD/DVD/4-Cells/56K	\$500
DELL P233	13.3" TFT/64/3.0/CD/DVD/4-Cells/56K	\$699
PC P233	13.3" TFT/64/3.0/CD/DVD/4-Cells/56K	\$699

Toronto 323 College St. 416.927.8626 WWW.COMPUPRO.CA

now anyone can have their own domain name

Domain
starting from
\$35.00
per year

what you get:

www.yourdomain.com

You point your domain to any location on the net — even if your web page is hosted by your ISP or GeoCities! Use your password to change where it points to at any time using a web browser anywhere on the net!

email at @yourdomain.com

Automatically forward all email sent to your domain name to your real email address, anywhere. Change where it points to at any time!

and much more!

yes, even you.

You don't have to be an Internet expert to have your own domain name. Now with **easyDNS**, you can register your own domain name in minutes, and make changes to your domain settings whenever you need to. No more waiting for your ISP to do it!

From **Dynamic DNS** to **email** and **web forwarding**, all of our bullet-proof services are backed by knowledgeable and responsive customer support staff who help you administer your domains.

Sign up today at www.easydns.com and get the piece of mind that comes from knowing your domains are in good hands — your own.



easyDNS

the way things should work

www.easyDNS.com • support@easyDNS.com

27100000

Faster components make faster computers
Continued from page 85

DDR SDRAM speeds up

Just when you've finally gotten used to the idea of Double Data Rate (DDR) SDRAM, there's a new flavor starting to float about. DDR is rated by its speed or potential bandwidth, and has until now come in two varieties: PC1600/DDR200 (1.6 Gbps throughput, 200 MHz bus) and PC1700/DDR266 (2.1 Gbps throughput, 266 MHz bus).

The new type will be known as PC2000 or DDR333 (if you've figured out that this is because it has a bandwidth of 2.7 Gbps and runs on a 333 MHz bus, move to the front of the class). At the moment, there are very few chips that will recognize the faster memory, though it should run just fine at 266 MHz on older motherboards.

ALi's M1661 chipset, SiS's Ultra 645 and VIA's KT333 are three of the chipsets which accommodate 333 MHz DDR. There are reports that some boards with



DDR266 K800 M7 processor and K800-700 M7C chipset (top), and Athlon XP (bottom)



Continued on page 87

"3webXS provides an awesome alternative for people who want the Internet but not the cost of high-speed. People see this and come in just to get it. It's affordable and it's unlimited. It has really helped get me customers."

Cam Reed (CDR Computers, Harrison, ON)

BIG OPPORTUNITY FOR SMALL BUSINESS



Are you in the business of selling, leasing or repairing computers? Then you can qualify as a 3webXS Authorized Distributor and earn a profit just by carrying our Internet access CDs in your store! 3webXS delivers premium, unlimited Internet from coast to coast for only \$9.95 per month.

Becoming a 3webXS Authorized Distributor is a great way to earn incremental revenue while giving your clients the opportunity to connect with 3webXS and save a bundle on Internet access. Call **1-866-347-3733** to discover how easy and profitable it is to distribute 3webXS. Your customers will thank you for it!

Become a 3webXS Distributor today and receive:

- A proven and popular Internet access product
- Free 3webXS merchandising and sales collateral
- Free delivery of 3webXS straight to your door
- Free promotion of your store on get3web.com
- Ongoing support from 3web's distribution team



Call **1-866-347-3733** Extension 258
or Email distribution@3web.com

3WEBXS
MORE IS LESS

DDR333 support may accept a maximum of two sticks of the memory, and adding a third stick may cause the memory to drop back down to 266 MHz—we haven't been able to confirm this yet, but we will certainly try to do so as soon as possible.

ATA gets faster

As both processors and memory get faster, it's likely that a computer's biggest bottleneck will be the hard drive, unless something changes soon.

Most new motherboards that are shipping right now use the ATA/100 standard, which allows data to be transferred to and from the hard drive at a rate of 100 MBps (megabytes per second). That's OK, because most hard drives run at ATA/100.

Two manufacturers are trying to speed things up: one has actual products and the other is now starting to talk up the next leap forward.

Maxtor is the company with faster products currently available, using the ATA/133 interface. We reviewed a couple of its new hard drives using this standard, and they worked just fine. The

problem is that none of the other hard drive companies seem particularly interested in ATA/133 at this point, which means that for now, it's pretty much a Maxtor format.

So far we've gotten our hands on only one motherboard with ATA/133 onboard, from Dell, though there are a few others currently available—most notably from Asus, Gigabyte, and MSI, though other manufacturers also offer the technology.

The current lack of ATA/133 hard drives may be because companies are holding out for Serial ATA, a technology that Seagate is particularly high on. Seagate has already demonstrated a hard drive design that can transfer data at 150 MBps, almost twice that ATA/133, and expects that Serial ATA will be capable of data transfer rates of 300 MBps without adding substantially to the cost. While drives aren't commercially available yet, Seagate is making plans to integrate it into upcoming hard drives.

An added benefit of Serial ATA is that the drives will be hot-pluggable, allowing you to add a hard drive to your system without having to shut down. ☐

Cool Word links

Continued from page 29

you can click the second test box to link the two. If the Test Box toolbar is not visible, display it by choosing View, Toolbars, then Test Box.

Test will now flow from the first box into the second whenever there is too much text to be contained in the first box. You can create cascading text boxes by linking the second test box to a third, and so on.

The Test Box toolbar contains buttons that allow you to follow the series of linked text boxes, moving from one to the next. Click on any of the test boxes and the Next Test Box and/or Previous Test Box buttons (as appropriate) will be displayed.

You can break the link at any Test Box by choosing the Break Forward Link button on the toolbar. The break will dissolve all links in subsequent boxes. You won't lose any text, though, it will roll back to fill the current box.

Font sampler

If you've been using Word for a few

years, you may recall a first sampler that shipped with Word 6.0 and 95. It was a macro that installed with Word and could be run to create a table containing a small sample of all the fonts you had on your computer.

If you printed it out, you'd always have a hard copy of available fonts to refer to—it was a popular tool for good reason. Unfortunately, the macro didn't ship with Word 97, but that didn't matter too much because most of us still had our old disks kicking around and could use the Word 95 macro by copying it off the disks and into the right folder.

Recent versions of Word haven't had the macro either and getting a printout of the fonts on your system hasn't been easy in recent times, unless you're a dab hand at programming in Visual Basic for Applications and managed to come up with a VBA solution. However, there is an easier way and that is to use a macro that is buried in the Microsoft Knowledge Base.

It is an article number Q09406, which can be found by typing the following

Continued on page 38

CompuSolutions Depot

Special Prices on Selected Items

\$99 Intel Pentium III 450MHz Processor

\$239 Intel Pentium III 450MHz Processor with 1GB RAM

\$229 Intel Pentium III 450MHz Processor with 1GB RAM and 15.5" Monitor

Ink-Jet and Laser Toner Cartridge Refill

80-90% Savings

Canon, HP, Epson, NEC, Compaq, Lexmark, Apple, Brother, Xerox...

(905) 275-8988

80-75% Savings

Toner Refill for Most Laser Printers & Copiers

Apple, Brother, Canon, Epson, HP, Lexmark, Minolta, NEC, Oki, Panasonic, Pinter, Ricoh, Sharp, Sony, Xerox...

Please call any time for the prices.

License delivery is available. Call for the details.

Mississauga: 4100, 300 Quinceway Loop (East of Centerville Rd., 2nd floor) Mon-Fri 10A-6P, Sat 10-12P

Scarborough: 1873, 30 Woodbine Court (Sheppard Ave. & Midland Ave.) Mon-Fri 10A-6P, Sat 10-12P

Intel 900A	Duron 950	Intel P III-1G	Intel P 4-1.6GHz	AMD XP 1700+	P4-1.8Geforce4
\$429	\$469	\$588	\$699	\$899	\$1599
Intel Pentium III 900MHz Processor 1GB RAM 15.5" Monitor 15.5" Flat Panel Monitor 15.5" Flat Panel Monitor 15.5" Flat Panel Monitor	AMD Duron 950MHz Processor 1GB RAM 15.5" Monitor 15.5" Flat Panel Monitor 15.5" Flat Panel Monitor 15.5" Flat Panel Monitor	Intel Pentium III 1GHz Processor 1GB RAM 15.5" Monitor 15.5" Flat Panel Monitor 15.5" Flat Panel Monitor 15.5" Flat Panel Monitor	Intel Pentium 4 1.6GHz Processor 1GB RAM 15.5" Monitor 15.5" Flat Panel Monitor 15.5" Flat Panel Monitor 15.5" Flat Panel Monitor	AMD Athlon XP 1700+ Processor 1GB RAM 15.5" Monitor 15.5" Flat Panel Monitor 15.5" Flat Panel Monitor 15.5" Flat Panel Monitor	P4-1.8Geforce4 Processor 1GB RAM 15.5" Monitor 15.5" Flat Panel Monitor 15.5" Flat Panel Monitor 15.5" Flat Panel Monitor
Options:	Options:	Options:	Options:	Options:	Options:
15.5" Flat Panel Monitor \$129	15.5" Flat Panel Monitor \$129	15.5" Flat Panel Monitor \$129	15.5" Flat Panel Monitor \$129	15.5" Flat Panel Monitor \$129	15.5" Flat Panel Monitor \$129
15.5" Flat Panel Monitor \$129	15.5" Flat Panel Monitor \$129	15.5" Flat Panel Monitor \$129	15.5" Flat Panel Monitor \$129	15.5" Flat Panel Monitor \$129	15.5" Flat Panel Monitor \$129
15.5" Flat Panel Monitor \$129	15.5" Flat Panel Monitor \$129	15.5" Flat Panel Monitor \$129	15.5" Flat Panel Monitor \$129	15.5" Flat Panel Monitor \$129	15.5" Flat Panel Monitor \$129
15.5" Flat Panel Monitor \$129	15.5" Flat Panel Monitor \$129	15.5" Flat Panel Monitor \$129	15.5" Flat Panel Monitor \$129	15.5" Flat Panel Monitor \$129	15.5" Flat Panel Monitor \$129
15.5" Flat Panel Monitor \$129	15.5" Flat Panel Monitor \$129	15.5" Flat Panel Monitor \$129	15.5" Flat Panel Monitor \$129	15.5" Flat Panel Monitor \$129	15.5" Flat Panel Monitor \$129

Computer & Network (Canada) Ltd.

191 Queen St. E. Toronto, ON M5E 1G3

Tel: (416) 461-7171, Fax: (416) 461-7172, Email: sales@cpn.ca

Web Site: www.cpn.ca, Business Hours: Mon - Sat: 10:30 - 7:00

Can Word look

Continued from page 87

into your browser: <http://support.microsoft.com/default.aspx?scid=kb;en-us;q209025>

There you'll find macro code that you can use to create your own font sampler and surprise everyone in your workplace with your skills! Here's what you do: Highlight the code from the Knowledge Base Web page from Sub List(n) to End Sub and, select Edit, then Copy. Switch to Word and choose Tools, Macro, then Macros. In the dialog box, type the name Listfont (all one word) and, from the Macro in dropdown list, choose Normal dot (global template) and click Create. The Visual Basic Editor will open and your cursor will appear inside a pair of Sub...End sub statements. Select from the Sub Listfont() to End sub (including both lines) and choose Edit. Paste to copy the code over the top of these.

The range of characters that the macro is set to print is fairly limited, so look in the code you've just replaced to find these lines:

(for example list(A)list(B) characters)

list(A)list(B)list(C)list(D)list(E)

'Insert sample list(A)list(B) characters)

list(E)list(F)list(G)list(H)list(I)list(J)

You can add anything you like between the double quote marks in the second and fourth lines shown. I like to add the upper case letters to the second line and all the other keyboard characters that are missing from the fourth, such as [], \, /, <, >.

When you're done, choose File, then Close, and return to Microsoft Word.

To run the macro, choose Tools, Macro, Macros, select the Listfont option, and click Run. The macro creates a new document with a sample of each font in your font list. You can save and print it when it's done. If you have limited memory on your computer, you'll do well to close all other programs before you begin (and perhaps even reboot) so Word has plenty of memory to use.

If you encounter a message when you try to run the macro to the effect that "The macros in this project are disabled. Please refer to the online help or documentation of the host application determine how to enable macros," the prob-

lem is the macro security level setting for your copy of Word. To alter this so you can run macros, choose Tools, Macro, Security, Security Level tab, choose Medium, and click OK. You must set Word and restart the program for these settings to take effect.

Horizontal lines

You probably already know that you can create horizontal lines in your documents by typing three dashes and pressing Enter. Provided you have the right AutoCorrect setting, this will create a single horizontal line the width of the page. If this doesn't work, choose Tools, AutoCorrect (AutoCorrect Options in Word 2002), AutoFormat in Word Type, and enable the Borders (Border lines in Word 2002) checkbox.

Other line options can be created using three equal signs (=), asterisks (*), tildes (~), underscores (_), etc.

There is another option you can use to create fence lines, that can be found in the Borders and Shading dialog. Position the cursor where you want the line to go and choose Format, Borders and Shading, then select the Borders tab

Click the Horizontal Line button. Then choose a line from those displayed.

In other circumstances, you may want a horizontal line to go from the current text position to the right of the page (or somewhere in between), for example, for a signing line or for a person to hand over an answer. In this case, use a right tab with a dot leader.

To do this, type the text you want to precede the line, then choose Format, Tabs, Click Right and, from the Leader selection, choose option 2, 3, or 4. In the Tab Stop Position area, type the position for the tab stop to appear—for example 6 in or 85 cm, etc.—click Set, then OK. Now press the Tab key and a line will be created from the current position to the tab stop.

While you may not find an immediate use for all these tools, there will be some you're looking for in the past and have perhaps not found. There will be others you'll want to use right away! □

Heidi Bradley specializes in writing hands-on tutorials, then takes them online regularly in a number of publications in the US, U.K. and Australia. Contact Heidi at heidi@heidi-brooklyn.com

3860 14th Ave. Unit 11 Montreal
Tel: (514) 479-8922 (1-877-388-2222) (416) 479-8922
E-mail: info@look4computer.com
A look4 computer inc. is a subsidiary of look4 computer inc. (USA)

NEW LEGEND

LOOK4COMPUTER.COM

WE FIX AND UPGRADE OLD COMPUTER!

PRICES CHANGE SO QUICK FOR THE LATEST PRICE VISIT: WWW.LOOK4COMPUTER.COM

GAME MASTER	NOV 2001	3/3/02 ONLINE	MAX SYSTEM	TURBO AND	PENTIUM 4	
<p>\$389</p> <p>AMD DURON 800 CPU ALL IN ONE MICRO BOARD RAM PC 133 1GB AMD VIDEO CARD 32 GB HD - 14400 CASE AND BOARD ITEM CABLES BANK VHS MODERNIZATION ALL SOUND CABLES ALL AUDIO AND TOWER CASE WARRANTY 3 YEARS FREE DELIVERY</p>	<p>\$599</p> <p>AMD 1.45GHZ CPU ALL IN ONE MICRO BOARD 1GB PC 133 RAM 32 GB HD 7200RPM 1GB DVD ITEM CABLES BANK VHS MODERNIZATION ALL SOUND CABLES ALL AUDIO AND TOWER CASE WARRANTY 3 YEARS FREE DELIVERY</p>	<p>\$759</p> <p>AMD DURON 1.45GHZ CPU ALL IN ONE MICRO BOARD 1GB PC 133 RAM 32 GB HD 7200RPM 1GB DVD ITEM CABLES BANK VHS MODERNIZATION ALL SOUND CABLES ALL AUDIO AND TOWER CASE WARRANTY 3 YEARS FREE DELIVERY</p>	<p>\$389</p> <p>AMD DURON 800 CPU ALL IN ONE MICRO BOARD 1GB PC 133 RAM 32 GB HD 7200RPM 1GB DVD ITEM CABLES BANK VHS MODERNIZATION ALL SOUND CABLES ALL AUDIO AND TOWER CASE WARRANTY 3 YEARS FREE DELIVERY</p>	<p>\$629</p> <p>AMD DURON 800 CPU ALL IN ONE MICRO BOARD 1GB PC 133 RAM 32 GB HD 7200RPM 1GB DVD ITEM CABLES BANK VHS MODERNIZATION ALL SOUND CABLES ALL AUDIO AND TOWER CASE WARRANTY 3 YEARS FREE DELIVERY</p>	<p>\$729</p> <p>AMD DURON 800 CPU ALL IN ONE MICRO BOARD 1GB PC 133 RAM 32 GB HD 7200RPM 1GB DVD ITEM CABLES BANK VHS MODERNIZATION ALL SOUND CABLES ALL AUDIO AND TOWER CASE WARRANTY 3 YEARS FREE DELIVERY</p>	<p>\$1229</p> <p>AMD DURON 800 CPU ALL IN ONE MICRO BOARD 1GB PC 133 RAM 32 GB HD 7200RPM 1GB DVD ITEM CABLES BANK VHS MODERNIZATION ALL SOUND CABLES ALL AUDIO AND TOWER CASE WARRANTY 3 YEARS FREE DELIVERY</p>

AMD DURON 800 CPU
ALL IN ONE MICRO BOARD
1GB PC 133 RAM
32 GB HD 7200RPM
1GB DVD
ITEM CABLES
BANK VHS MODERNIZATION
ALL SOUND CABLES
ALL AUDIO AND TOWER CASE
WARRANTY 3 YEARS
FREE DELIVERY

AMD DURON 1.45GHZ CPU
ALL IN ONE MICRO BOARD
1GB PC 133 RAM
32 GB HD 7200RPM
1GB DVD
ITEM CABLES
BANK VHS MODERNIZATION
ALL SOUND CABLES
ALL AUDIO AND TOWER CASE
WARRANTY 3 YEARS
FREE DELIVERY

AMD DURON 800 CPU
ALL IN ONE MICRO BOARD
1GB PC 133 RAM
32 GB HD 7200RPM
1GB DVD
ITEM CABLES
BANK VHS MODERNIZATION
ALL SOUND CABLES
ALL AUDIO AND TOWER CASE
WARRANTY 3 YEARS
FREE DELIVERY

AMD DURON 800 CPU
ALL IN ONE MICRO BOARD
1GB PC 133 RAM
32 GB HD 7200RPM
1GB DVD
ITEM CABLES
BANK VHS MODERNIZATION
ALL SOUND CABLES
ALL AUDIO AND TOWER CASE
WARRANTY 3 YEARS
FREE DELIVERY

AMD DURON 800 CPU
ALL IN ONE MICRO BOARD
1GB PC 133 RAM
32 GB HD 7200RPM
1GB DVD
ITEM CABLES
BANK VHS MODERNIZATION
ALL SOUND CABLES
ALL AUDIO AND TOWER CASE
WARRANTY 3 YEARS
FREE DELIVERY

AMD DURON 800 CPU
ALL IN ONE MICRO BOARD
1GB PC 133 RAM
32 GB HD 7200RPM
1GB DVD
ITEM CABLES
BANK VHS MODERNIZATION
ALL SOUND CABLES
ALL AUDIO AND TOWER CASE
WARRANTY 3 YEARS
FREE DELIVERY

Tokyo brings new products, bad news



Macworld Tokyo kicked off on March 31 with some great new product announcements and a bit of bad news for prospective Mac buyers.

First the good news. Apple chose the expo to introduce a new higher-resolution 23-inch Cinema Display, a new 10 GB iPod, and a MacBook adapter with OS X support.

First up, the new Cinema Display HD. This new model does not replace the existing 23-inch Cinema Display, which remains available for the previous



US\$1,499 price tag. Rather, the Cinema Display HD marks the new top end of Apple's LCD screen line with a hefty US\$1,499 price tag and a much higher resolution than the 23-inch model.

The new model gets its name from the fact that you can view an entire high-definition video frame at full size on this LCD and still have room for toolbars and palettes. The resolution of HDTV at the highest size is 1,080 lines horizontal. This new LCD has maximum resolution of 1,920x1,200, whereas the 23-inch has a maximum of only 1,600x1,204.

However, to use the Cinema Display HD, you need Mac with a very new video card. According to Apple, it will only run on an NVIDIA GeForce 2MX or higher, or ATI Radeon 7500 or higher with AGP interface. For many this new display is overkill, but if your work

Continued on page 30

friendly web hosting from

Making Web Hosting Affordable!

Dollarhost has hosting solutions for all businesses and individuals. We offer hosting for many popular applications: CGI-Perl, ASP, PHP and ColdFusion.

Dollarhost hosting provides you with fast, reliable web servers, shared or dedicated, that are efficiently configured to perform strong and great affordability. Our company has helped thousands of businesses and individuals establish their web presence since 1996.

Visit www.dollarhost.com today for more details of our pricing and services to find a hosting solution.

Web Hosting (from \$5/mo.)

- + Linux and NT Hosting
- + POP/IMAP Email Accounts
- + Web-based Email Access
- + PHP/CGI/SSI
- + Web Site Statistics
- + MS Frontpage Extensions
- + Active Server Pages
- + ColdFusion
- + Database Support

Dedicated Hosting (from \$125/mo.)

- + Secured Data Center
- + Intel Server
- + Linux or NT Platform
- + Redundant Disk
- + UPS Power Backup
- + Flexible Options

Reseller Resurrection (from US\$15/yr.)

- + com, net, org, uk
- + free domain parking
- + free "under construction" page
- + cPanel available

dollarhost
Making Web Hosting Affordable

• www.dollarhost.com
• info@dollarhost.com
• 1.888.628.7963

Everything
you expect
from your

internet
business
company

All You Need for Your Website

- .biz, .info, .ca, .uk, .cc, .com, .net, .org domain name registration
- CGI, PERL, PHP3, PHP4, MySQL, SSI, ASP, MS FrontPage
- 95/2000/2002, MS SharePoint, MS Access, ColdFusion, VB Scripts
- Real Audio/Video, Shopping Cart, WebMail and more!
- Guaranteed 99.9% uptime
- 7x24hr Technical support
- 60 second account setup and activation
- Microsoft Certified FrontPage Service Provider
- Web-based control panel

www.zwne.com

Toll Free: 1-877-869-9852

Canada's Number One Reseller Program

- 50% Flat Rate discount on both Unix and Windows 2000 packages
- Automatically become our reseller after first account at no charge
- Web-based control panel handles your resold accounts easily from signup to billing
- 100% Anonymous control panel for your customers
- 100% Anonymous 7x24 support center to pass all your customer support to us.

Look no further if you have more than one website

Transcript provided:

www.international-business.com

Get your FREE
personalized T-shirt!

Public version: June 2008; please see the Info Center around our for details.



Trusted by over one thousand Canadian residents

**zwnet**

~ PLATFORM NEWS ~

Tokyo brings new products, bad news

Continued from page 89

requires manipulation of very high-resolution images, the Cinema Display could be the greatest thing since dual-monitor.

Next up is the updated iPod. Everyone was expecting a larger iPod, but Apple, unfortunately, chose not to lower the price on the existing 5 GB model. The new iPod can store up to 30 GB of music—or about 2,800 songs, according to Apple. It also features enhanced functionality, including an address book and 20 equation presets. Existing iPod owners are not left out, as the recently released software update iPod 1.1 will add those features to any 5 GB model.



The address book is nice as it can interact with Entourage, NewsContact, Palm Desktop, or OS X's built-in address book. The new 16 GB *iPod* sells for US\$499 and the 8 GB model remains at US\$399.

Once you have them, you can now have a caption (a maximum of two lines and 27 characters per line) engraved at the factory on the back of an iPod for an additional US\$50. While it looks quite nice, we wonder how many people will need an iPod with "Happy Birthday" written on the back. At US\$450 for the 5 GB model with engraving, that's one expensive gift.

The last item Apple debuted in Tokyo was a new Bluetooth adapter with software for OS X. Bluetooth is a wireless technology that works similar to Apple's own Airport, but has much less range and is considerably slower. Current uses for Bluetooth include syncing your Palm wirelessly with your computer and connecting your digital phone to your car stereo for use as a cellular modem. If more Bluetooth items become available

«PLATFORM NEWS»

Tekno brings new products, bad news
Continued from page 31



anche need, the KoolLink (www.koolink.com) is perfect for any laptop

user, but goes especially well with Apple's PowerBook G4.

First a bit of history though. Up until the PowerBook 1400/1400 series, Apple included retractable feet on its laptops. The idea behind this was that people would not always want to use a laptop on their lap and for use on a desk, the keyboard needed to be angled for more comfortable typing. The feet also made the height of the screen slightly, for a better viewing angle. When the G3 "Wall Street" PowerBooks appeared, the

retractable feet disappeared and haven't been seen since.

Some people compensate by propping up the hinge-side of their laptop with books or other objects, but it's hardly the elegant solution you want for your spiffy thimble computer.

Enter the KoolLink. Not only does it solve the angle issue, it helps keep the laptop cooler by increasing the airflow and absorbing some of the heat. It is made entirely from stainless steel, so looks good and is more durable than

comparing products like the plastic CoolPad.

The KoolLink is made in a metal shop here in Vancouver, B.C., and certainly has the potential to be a hot item among the laptop crowd—especially with a reasonable price of \$29.95. The KoolLink is available in a range of sizes for different laptops.

Paint Desktop 4.0 for OS 9 and X
Almost as significant as the Photoshop 7 announcement is the release of the first

LOWEST PRICES GUARANTEED			
IBM	HP	DELL	ASUS
IBM P4 1480Z	\$1,199	HP P4 1480Z	\$1,199
IBM P4 1500Z	\$1,299	HP P4 1500Z	\$1,299
IBM P4 1600Z	\$1,399	HP P4 1600Z	\$1,399
IBM P4 1700Z	\$1,499	HP P4 1700Z	\$1,499
IBM P4 1800Z	\$1,599	HP P4 1800Z	\$1,599
IBM P4 1900Z	\$1,699	HP P4 1900Z	\$1,699
IBM P4 2000Z	\$1,799	HP P4 2000Z	\$1,799
IBM P4 2100Z	\$1,899	HP P4 2100Z	\$1,899
IBM P4 2200Z	\$1,999	HP P4 2200Z	\$1,999
IBM P4 2300Z	\$2,099	HP P4 2300Z	\$2,099
IBM P4 2400Z	\$2,199	HP P4 2400Z	\$2,199
IBM P4 2500Z	\$2,299	HP P4 2500Z	\$2,299
IBM P4 2600Z	\$2,399	HP P4 2600Z	\$2,399
IBM P4 2700Z	\$2,499	HP P4 2700Z	\$2,499
IBM P4 2800Z	\$2,599	HP P4 2800Z	\$2,599
IBM P4 2900Z	\$2,699	HP P4 2900Z	\$2,699
IBM P4 3000Z	\$2,799	HP P4 3000Z	\$2,799
IBM P4 3100Z	\$2,899	HP P4 3100Z	\$2,899
IBM P4 3200Z	\$2,999	HP P4 3200Z	\$2,999
IBM P4 3300Z	\$3,099	HP P4 3300Z	\$3,099
IBM P4 3400Z	\$3,199	HP P4 3400Z	\$3,199
IBM P4 3500Z	\$3,299	HP P4 3500Z	\$3,299
IBM P4 3600Z	\$3,399	HP P4 3600Z	\$3,399
IBM P4 3700Z	\$3,499	HP P4 3700Z	\$3,499
IBM P4 3800Z	\$3,599	HP P4 3800Z	\$3,599
IBM P4 3900Z	\$3,699	HP P4 3900Z	\$3,699
IBM P4 4000Z	\$3,799	HP P4 4000Z	\$3,799
IBM P4 4100Z	\$3,899	HP P4 4100Z	\$3,899
IBM P4 4200Z	\$3,999	HP P4 4200Z	\$3,999
IBM P4 4300Z	\$4,099	HP P4 4300Z	\$4,099
IBM P4 4400Z	\$4,199	HP P4 4400Z	\$4,199
IBM P4 4500Z	\$4,299	HP P4 4500Z	\$4,299
IBM P4 4600Z	\$4,399	HP P4 4600Z	\$4,399
IBM P4 4700Z	\$4,499	HP P4 4700Z	\$4,499
IBM P4 4800Z	\$4,599	HP P4 4800Z	\$4,599
IBM P4 4900Z	\$4,699	HP P4 4900Z	\$4,699
IBM P4 5000Z	\$4,799	HP P4 5000Z	\$4,799
IBM P4 5100Z	\$4,899	HP P4 5100Z	\$4,899
IBM P4 5200Z	\$4,999	HP P4 5200Z	\$4,999
IBM P4 5300Z	\$5,099	HP P4 5300Z	\$5,099
IBM P4 5400Z	\$5,199	HP P4 5400Z	\$5,199
IBM P4 5500Z	\$5,299	HP P4 5500Z	\$5,299
IBM P4 5600Z	\$5,399	HP P4 5600Z	\$5,399
IBM P4 5700Z	\$5,499	HP P4 5700Z	\$5,499
IBM P4 5800Z	\$5,599	HP P4 5800Z	\$5,599
IBM P4 5900Z	\$5,699	HP P4 5900Z	\$5,699
IBM P4 6000Z	\$5,799	HP P4 6000Z	\$5,799
IBM P4 6100Z	\$5,899	HP P4 6100Z	\$5,899
IBM P4 6200Z	\$5,999	HP P4 6200Z	\$5,999
IBM P4 6300Z	\$6,099	HP P4 6300Z	\$6,099
IBM P4 6400Z	\$6,199	HP P4 6400Z	\$6,199
IBM P4 6500Z	\$6,299	HP P4 6500Z	\$6,299
IBM P4 6600Z	\$6,399	HP P4 6600Z	\$6,399
IBM P4 6700Z	\$6,499	HP P4 6700Z	\$6,499
IBM P4 6800Z	\$6,599	HP P4 6800Z	\$6,599
IBM P4 6900Z	\$6,699	HP P4 6900Z	\$6,699
IBM P4 7000Z	\$6,799	HP P4 7000Z	\$6,799
IBM P4 7100Z	\$6,899	HP P4 7100Z	\$6,899
IBM P4 7200Z	\$6,999	HP P4 7200Z	\$6,999
IBM P4 7300Z	\$7,099	HP P4 7300Z	\$7,099
IBM P4 7400Z	\$7,199	HP P4 7400Z	\$7,199
IBM P4 7500Z	\$7,299	HP P4 7500Z	\$7,299
IBM P4 7600Z	\$7,399	HP P4 7600Z	\$7,399
IBM P4 7700Z	\$7,499	HP P4 7700Z	\$7,499
IBM P4 7800Z	\$7,599	HP P4 7800Z	\$7,599
IBM P4 7900Z	\$7,699	HP P4 7900Z	\$7,699
IBM P4 8000Z	\$7,799	HP P4 8000Z	\$7,799
IBM P4 8100Z	\$7,899	HP P4 8100Z	\$7,899
IBM P4 8200Z	\$7,999	HP P4 8200Z	\$7,999
IBM P4 8300Z	\$8,099	HP P4 8300Z	\$8,099
IBM P4 8400Z	\$8,199	HP P4 8400Z	\$8,199
IBM P4 8500Z	\$8,299	HP P4 8500Z	\$8,299
IBM P4 8600Z	\$8,399	HP P4 8600Z	\$8,399
IBM P4 8700Z	\$8,499	HP P4 8700Z	\$8,499
IBM P4 8800Z	\$8,599	HP P4 8800Z	\$8,599
IBM P4 8900Z	\$8,699	HP P4 8900Z	\$8,699
IBM P4 9000Z	\$8,799	HP P4 9000Z	\$8,799
IBM P4 9100Z	\$8,899	HP P4 9100Z	\$8,899
IBM P4 9200Z	\$8,999	HP P4 9200Z	\$8,999
IBM P4 9300Z	\$9,099	HP P4 9300Z	\$9,099
IBM P4 9400Z	\$9,199	HP P4 9400Z	\$9,199
IBM P4 9500Z	\$9,299	HP P4 9500Z	\$9,299
IBM P4 9600Z	\$9,399	HP P4 9600Z	\$9,399
IBM P4 9700Z	\$9,499	HP P4 9700Z	\$9,499
IBM P4 9800Z	\$9,599	HP P4 9800Z	\$9,599
IBM P4 9900Z	\$9,699	HP P4 9900Z	\$9,699
IBM P4 10000Z	\$9,799	HP P4 10000Z	\$9,799
IBM P4 10100Z	\$9,899	HP P4 10100Z	\$9,899
IBM P4 10200Z	\$9,999	HP P4 10200Z	\$9,999
IBM P4 10300Z	\$10,099	HP P4 10300Z	\$10,099
IBM P4 10400Z	\$10,199	HP P4 10400Z	\$10,199
IBM P4 10500Z	\$10,299	HP P4 10500Z	\$10,299
IBM P4 10600Z	\$10,399	HP P4 10600Z	\$10,399
IBM P4 10700Z	\$10,499	HP P4 10700Z	\$10,499
IBM P4 10800Z	\$10,599	HP P4 10800Z	\$10,599
IBM P4 10900Z	\$10,699	HP P4 10900Z	\$10,699
IBM P4 11000Z	\$10,799	HP P4 11000Z	\$10,799
IBM P4 11100Z	\$10,899	HP P4 11100Z	\$10,899
IBM P4 11200Z	\$10,999	HP P4 11200Z	\$10,999
IBM P4 11300Z	\$11,099	HP P4 11300Z	\$11,099
IBM P4 11400Z	\$11,199	HP P4 11400Z	\$11,199
IBM P4 11500Z	\$11,299	HP P4 11500Z	\$11,299
IBM P4 11600Z	\$11,399	HP P4 11600Z	\$11,399
IBM P4 11700Z	\$11,499	HP P4 11700Z	\$11,499
IBM P4 11800Z	\$11,599	HP P4 11800Z	\$11,599
IBM P4 11900Z	\$11,699	HP P4 11900Z	\$11,699
IBM P4 12000Z	\$11,799	HP P4 12000Z	\$11,799
IBM P4 12100Z	\$11,899	HP P4 12100Z	\$11,899
IBM P4 12200Z	\$11,999	HP P4 12200Z	\$11,999
IBM P4 12300Z	\$12,099	HP P4 12300Z	\$12,099
IBM P4 12400Z	\$12,199	HP P4 12400Z	\$12,199
IBM P4 12500Z	\$12,299	HP P4 12500Z	\$12,299
IBM P4 12600Z	\$12,399	HP P4 12600Z	\$12,399
IBM P4 12700Z	\$12,499	HP P4 12700Z	\$12,499
IBM P4 12800Z	\$12,599	HP P4 12800Z	\$12,599
IBM P4 12900Z	\$12,699	HP P4 12900Z	\$12,699
IBM P4 13000Z	\$12,799	HP P4 13000Z	\$12,799
IBM P4 13100Z	\$12,899	HP P4 13100Z	\$12,899
IBM P4 13200Z	\$12,999	HP P4 13200Z	\$12,999
IBM P4 13300Z	\$13,099	HP P4 13300Z	\$13,099
IBM P4 13400Z	\$13,199	HP P4 13400Z	\$13,199
IBM P4 13500Z	\$13,299	HP P4 13500Z	\$13,299
IBM P4 13600Z	\$13,399	HP P4 13600Z	\$13,399
IBM P4 13700Z	\$13,499	HP P4 13700Z	\$13,499
IBM P4 13800Z	\$13,599	HP P4 13800Z	\$13,599
IBM P4 13900Z	\$13,699	HP P4 13900Z	\$13,699
IBM P4 14000Z	\$13,799	HP P4 14000Z	\$13,799
IBM P4 14100Z	\$13,899	HP P4 14100Z	\$13,899
IBM P4 14200Z	\$13,999	HP P4 14200Z	\$13,999
IBM P4 14300Z	\$14,099	HP P4 14300Z	\$14,099
IBM P4 14400Z	\$14,199	HP P4 14400Z	\$14,199
IBM P4 14500Z	\$14,299	HP P4 14500Z	\$14,299
IBM P4 14600Z	\$14,399	HP P4 14600Z	\$14,399
IBM P4 14700Z	\$14,499	HP P4 14700Z	\$14,499
IBM P4 14800Z	\$14,599	HP P4 14800Z	\$14,599
IBM P4 14900Z	\$14,699	HP P4 14900Z	\$14,699
IBM P4 15000Z	\$14,799	HP P4 15000Z	\$14,799
IBM P4 15100Z	\$14,899	HP P4 15100Z	\$14,899
IBM P4 15200Z	\$14,999	HP P4 15200Z	\$14,999
IBM P4 15300Z	\$15,099	HP P4 15300Z	\$15,099
IBM P4 15400Z	\$15,199	HP P4 15400Z	\$15,199
IBM P4 15500Z	\$15,299	HP P4 15500Z	\$15,299
IBM P4 15600Z	\$15,399	HP P4 15600Z	\$15,399
IBM P4 15700Z	\$15,499	HP P4 15700Z	\$15,499
IBM P4 15800Z	\$15,599	HP P4 15800Z	\$15,599
IBM P4 15900Z	\$15,699	HP P4 15900Z	\$15,699
IBM P4 16000Z	\$15,799	HP P4 16000Z	\$15,799
IBM P4 16100Z	\$15,899	HP P4 16100Z	\$15,899
IBM P4 16200Z	\$15,999	HP P4 16200Z	\$15,999
IBM P4 16300Z	\$16,099	HP P4 16300Z	\$16,099
IBM P4 16400Z	\$16,199	HP P4 16400Z	\$16,199
IBM P4 16500Z	\$16,299	HP P4 16500Z	\$16,299
IBM P4 16600Z	\$16,399	HP P4 16600Z	\$16,399
IBM P4 16700Z	\$16,499	HP P4 16700Z	\$16,499
IBM P4 16800Z	\$16,599	HP P4 16800Z	\$16,599
IBM P4 16900Z	\$16,699	HP P4 16900Z	\$16,699
IBM P4 17000Z	\$16,799	HP P4 17000Z	\$16,799
IBM P4 17100Z	\$16,899	HP P4 17100Z	\$16,899
IBM P4 17200Z	\$16,999	HP P4 17200Z	\$16,999
IBM P4 17300Z	\$17,099	HP P4 17300Z	\$17,099
IBM P4 17400Z	\$17,199	HP P4 17400Z	\$17,199
IBM P4 17500Z	\$17,299	HP P4 17500Z	\$17,299
IBM P4 17600Z	\$17,399	HP P4 17600Z	\$17,399
IBM P4 17700Z	\$17,499	HP P4 17700Z	\$17,499
IBM P4 17800Z	\$17,599	HP P4 17800Z	\$17,599
IBM P4 17900Z	\$17,699	HP P4 17900Z	\$17,699
IBM P4 18000Z	\$17,799	HP P4 18000Z	\$17,799
IBM P4 18100Z	\$17,899	HP P4 18100Z	\$17,899
IBM P4 18200Z	\$17,999	HP P4 18200Z	\$17,999
IBM P4 18300Z	\$18,099	HP P4 18300Z	\$18,099
IBM P4 18400Z	\$18,199	HP P4 18400Z	\$18,199
IBM P4 18500Z	\$18,299	HP P4 18500Z	\$18,299
IBM P4 18600Z	\$18,399	HP P4 18600Z	\$18,399
IBM P4 18700Z	\$18,499	HP P4 18700Z	\$18,499
IBM P4 18800Z	\$18,599	HP P4 18800Z	\$18,599
IBM P4 18900Z	\$18,699	HP P4 18900Z	\$18,699
IBM P4 19000Z	\$18,799	HP P4 19000Z	\$18,799
IBM P4 19100Z	\$18,899	HP P4 19100Z	\$18,899
IBM P4 19200Z	\$18,999	HP P4 19200Z	\$18,999
IBM P4 19300Z	\$19,099	HP P4 19300Z	\$19,099
IBM P4 19400Z	\$19,199	HP P4 19400Z	\$19,199
IBM P4 19500Z	\$19,299	HP P4 19500Z	\$19,299
IBM P4 19600Z	\$19,399	HP P4 19600Z	\$19,399
IBM P4 19700Z	\$19,499	HP P4 19700Z	\$19,499
IBM P4 19800Z	\$19,599	HP P4 19800Z	\$19,599
IBM P4 19900Z	\$19,699	HP P4 19900Z	\$19,699
IBM P4 20000Z	\$19,799	HP P4 20000Z	\$19,799
IBM P4 20100Z	\$19,899		

version of Palm Desktop 4.0 for OS X. The beta version was available for almost four months, during which time Palm seems to have done a very good job of working out bugs.

While many people had trouble getting the beta to sync with their machines, the final release version seems to work flawlessly—so far—with Palm, Handspring Vioxx, and Sony Clie. The new Palm Desktop 4.0 is OS X native, but there is also an OS 9 version available.

The OS X version requires that contacts be rewritten in order to work, so there isn't much available right now. Currently Vindigo, AwardGo and Entravision don't work. But there is an OS X conduit for NewContact and UpToDate.

The OS-X version features instant Palm Desktop-type functionality in the dock icon, just right-click the dock icon to find out about upcoming appointments, etc. Palm Desktop 4.0 also supports vCard and vCal formats, making it easy to drag and drop contacts and events between different programs and platforms.

It's available for download now for free from Palm. For specific conditions, you will have to contact the individual manufacturers, as Palm does not have turnbuckles for their releases. Microsoft's Mac business unit did say it was waiting for the final version before updating Entourage vX, so an update should be available in the next four to six weeks for Office v X users. ☐

Jacqui Siemens is a Web 2.0 specialist based in Vancouver, B.C. He can be reached at jsiemens@mac.com

1977 Encyclopedia Britannica

W&A—Condensed the definitive edition of this venerable reference text, the 1993 *Encyclopaedia Britannica* is now entirely online and searchable. Unlike its predecessor, this set has articles written in journalistic style in clear, concise English with a minimum of editorial content. The descriptions of objects, people and places many of them long forgotten. The *Acapsite* entry, for instance, says nothing of tourism, describing it as a coffee growing region.



True Graphics Sheer Power

Establishing new level of character realism and texture versatility



Multi-Display Edition

RADEON 8500

E V I L M A S T E R I I



C.R. Technology Co., Ltd.
 400g 4 1/2" Dia. 15, Rev. 1 (March 2001)
 400g 4 1/2" Dia. 15, Rev. 1 (March 2001)
 400g 4 1/2" Dia. 15, Rev. 1 (March 2001)
 400g 4 1/2" Dia. 15, Rev. 1 (March 2001)

KEMA
150-9801

DIRECTX

LT-40



1

0

100

PowerColor Computer Inc.
10000 Valley Blvd., City of Industry
CA 91715, USA
Tel: +1-626-224-8888
Fax: +1-626-224-8889

Careers & Training

IT Career Trends • Productivity Tips & Tricks • Book Reviews • Tutorials

IT specialist a generalist

By Sharlene Myers

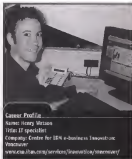
During the recent technology boom, there were lots of stories about techies in high demand jumping from job to job, leap-frogging up the career ladder and salary scale with each move—sharpening their resumes even as they moved into new office space.

But Henry Watson, an IT specialist with IBM, wasn't one of them. Watson has been with IBM since he graduated from university, a loyalty he attributes to the quality and variety of opportunities he has found within the company, including working behind the scenes at the Commonwealth Games in Victoria, B.C. and the Olympic Games in Sydney, Australia.

Currently working at the Centre for IBM e-Business Innovation Vancouver, in Burnaby, B.C., Watson recently sat down to discuss his ever-evolving career story with TCP. Following is an edited version of that interview.

TCP: How did you get here? What interests and education led you to this position?

HW: Well it was a pretty obvious beginning, because in Grade 12 computer science, I ended up getting a final grade of like, 112 percent. So, it was pretty clear that was the industry I wanted to go into. I took a computing science degree at Simon Fraser University, and through the course of that degree, I ended in the cooperative educational program. I had a lot of experience throughout the degree with a variety of companies all across Canada. I actually had two terms with IBM, and then the very last term landed into a job offer after I graduated. I've been here now, I guess, for almost 10 years.



Career Profile

Name: Henry Watson

Title: IT specialist

Company: Centre for IBM e-Business Innovation Vancouver

www.cie.ibm.com/services/innovation/innovmwy/

TCP: What position did you start on?

HW: I started as an administration kind of person, taking care of very entry-level type of networks, setting up computers, installing operating systems, connecting cables, getting all that technology stuff set up. And it was basically a lot for customers to come in and see new IBM products, like DB2—that's a data.

Continued on page 95

A programming primer for Flash designers

By Keith Schengil-Roberts

Macromedia's Flash has quickly taken off with many Web designers as a back-to-basics, "no-nonsense" Web tool, or simply to add some multimedia option to more conventional sites. The most recent version of Flash incorporated ActionScript, a robust, JavaScript-like programming language that opens up a wide range of display options for Flash. But Flash designers are not necessarily programmers, which is where Dreamweaver comes in. Subtitled ActionScript for Designers, this book aims squarely at Flash designers who want to get a solid footing on ActionScript programming basics.

BookShelfade

Author: Brandon Davies

Publisher: No Starch

(Pearson Education Canada 1-800-580-5800)

ISBN: 077377404-5

Pages: 276 pages 2003

(see 56/95)

Continued on page 95

May Computer Book Coupon Promotion

Save \$5.00 on all QUE titles



Protect Your Digital Identity Survival Skills for the Information Age
Glen Warren Cuts
David Huxley
\$24.95



Barley's Internet Detective
Barley Huxley
\$24.95



Quick! Power
David Huxley
\$24.95



Special Edition Being ASP.NET
Jeff Smith, Brian Siler
\$24.95



Special Edition Being ASP.NET
Richard Loder
\$24.95



QUE

Offer valid from May 1, 2003 to May 31, 2003. Valid only at www.peterborough.com/que

This offer is only available at these fine bookstores across Canada:

AMERICA'S BOOKSTORE
Jennifer Lee Company
304-667-0014
www.jenniferleecompany.com

ALBERTA
Computer Book Store
403-242-0071
Nelson Computer Books
250-242-0071
www.alberta.computerbooks.com

ALASKA
360-443-4884 Cal. 407
www.alaska.com

ANALOG/ANALOG
Nelson Computer Books
250-242-0071
www.alberta.computerbooks.com

ANALOG/ANALOG
Nelson Computer Books
250-242-0071
www.alberta.computerbooks.com

ARIZONA
Nelson Computer Books
602-475-0014
www.arizona.com

ARIZONA
Computer Book Store
602-475-0014
www.arizona.computerbooks.com

ARIZONA
360-443-4884 Cal. 407
www.alaska.com

ARIZONA
Nelson Computer Books
250-242-0071
www.alberta.computerbooks.com

ARIZONA
Nelson Computer Books
250-242-0071
www.alberta.computerbooks.com

ARIZONA
Nelson Computer Books
602-475-0014
www.arizona.com

ARIZONA
Computer Book Store
602-475-0014
www.arizona.computerbooks.com

ARIZONA
360-443-4884 Cal. 407
www.alaska.com

ARIZONA
Nelson Computer Books
250-242-0071
www.alberta.computerbooks.com

ARIZONA
Nelson Computer Books
250-242-0071
www.alberta.computerbooks.com

A programming primer for Flash

Continued from page 94



Rating:

Interest on content: ****

Readability: ****

Intended for: Experienced beginner Intermediate

Overall Rating: ****

The author, Brendan Dawes, has been playing around with computers for a long time, and begins the book by relating how he became "addicted to coding" using a merger Sinclair Z80 computer, well over a decade ago.

From there, he launches what is one of the best explanations I've read on dealing with simple objects in Flash, which illus-

trates how easy—and how powerful—ActionScript can be when added to movie objects in Flash 5 & 6. Some of the projects covered in this book include: using variables inside movie clips, building a sliding mask turntable effect, creating intelligent reactive fades, creating working volume slider controls, capturing user input, dynamic typography, and glowing movie.

One of the best things about the book is the number of genuinely useful coding examples—some of which I have now added to my own Flash repertoire.

While there's something to be said for playing with code examples as a method of teaching, the book really does not provide a deep grounding in the principles of ActionScript (or of programming fundamentals in general). If you prefer to learn by doing rather than understanding the theoretical aspects of how things work, you'll appreciate this approach to learning ActionScript.

I'd also argue that you need to know your way around Flash to begin with—absolute Flash beginners will get lost with this book. The price is also on the steep side—\$67.95—but not out of line with other full-colour computer-oriented books.

So, if you're an intermediate Flash designer looking to produce those eye-popping displays you've seen on other Flash-driven Web sites, slip on over to your local bookstore and pick up *DesignSite*.

If specialist a generalist

Continued from page 94

base product—starting in this environment, and seeing how the computer can talk to each other across a network, demonstrating client-server concepts, these types of things. So it was a really good entry-level job that I could get my hands into, and a lot of time for growth, learning new things and new software.

So that's how I started at IBM, and it's really funny the way things worked out. That job, where I was initially setting up a DB2 database lab, turned into an opportunity to go over to Victoria and work for the Commonwealth Games [in 1994] because they wanted to use IBM DB2 as the database for this person sponsoring it. I had lots of firsthand experience setting it up from scratch—it was a pretty new product on AIX at the time,

< CAREERS & TRAINING >

Note: If you're interested in the book, check out the accompanying Web site (www.sagepubinc.com). The code examples available on the site are worth a visit, though you'll need the book to know exactly what you are downloading. ☐

that's IBM's Unix—and that enabled me to leverage that skill and set up a database for them. They liked what I did, so they gave me an offer, and I ended up working on the Commonwealth Games for a year.

As I got into the Commonwealth Games role, it brought in a whole bunch of other skills that I needed. First, I started with administration of a Unix system, and administering the database, then it kind of grew to working with the client systems that would be out at all the venues, retrieving results from this database. So, I started working on the connectivity, looking at how to plan out the network, and also I got into testing. People wanted to know, "OK, how are we going to confirm that we're going to support this many client computers out there working against the database?" I started

Continued on page 96

TAKE THE CONFUSION OUT OF I.T. TRAINING



Simply the best.

2 Carlton Street, Suite #610, Toronto (College Subway Station)
The IT School of the International Academy of Design & Technology

ACT NOW 416 593 2777 www.softtrain.com



Business Services

Changing the Rules for Small Business
www.look.ca 1-877-414-5665

*The next generation internet infrastructure
for small, medium and growing businesses.*

**Look
UltraFAST
ADSL**

Tired of slow download times?

Give your business a powerful solution at economical prices with Look UltraFAST™ ADSL. Our ADSL solution enables small, medium and growing businesses to tackle any aspect of their online needs today and into the future.

Look UltraFAST ADSL will forever change the way you do business.

Customer and Delivery Services Include:

- Free Technical Support
- 24/7 Network Monitoring
- Online account management
- Online website management
- Self-service email admin
- POP/IMAP/WebMail, SMTP
- 1 Year Hardware Warranty



1.5 Mbps Service
3.0 Mbps Service

includes:

- 1st year new Domain Registration
- EasyHosting Standard Plan
- 60hr Dial Account
- 15-40 email you@yourcompany.ca
- STATIC IP



www.look.ca 1-877-414-5665

* Monthly cost with purchase of an annual payment
Includes office, materials and discounts on terms and conditions. Including materials on an
agreement which may be found at www.ford.com. Availability is dependent upon
location and vehicle model.

Look EasyHosting™ Plans

More so! Canadian businesses enjoy the 99.9% uptime and continually advancing features and functionality of Look Easy Hosting™ than any other Canadian Host.

Features and Functionality

Windows/MAAP/Net/POP3, MS FrontPage 2002, Microsoft Office, Microsoft Word, C++, C#, JavaScript, ASP, Shockwave, Security, Ad Manager, Advertising Manager, Business, CRM, Programming, Audio/Video, FTP Services, Web Port, Email software, Email marketing, and more. We have the best.

To explore specific features for each plant that may lead to discrimination

Portform und Architektur:

Seamless UNDAINT integration, RAID Storage, load balanced servers, NGF Routing, Redundant I/O, Offsite Backup, State of the art data center

Wieder

\$17.41 *
1GB Disc Space
5 email addresses
2 GB Transfer
POP3/Webmail
Website Wizard

Intermediate:

\$45.82 *
300MB Disc Space
25 email addresses
10 GB Transfer
POP3/IMAP/d
+ Anonymous FTP
+ DDoS
+ Shared SSL
+ AntiSpam/Virus

Standard:

\$27.49 *
150MB Disk Space
10 email addresses
& Gb Transfer
POP3/Webmail
+ Directory FTP
+ File Restore
+ CGI
+ Shopping Cart

Advanced:

\$91.66 *
600MB Disc Space
50 email addresses
14 GB Transfer
POP3/webmail
+ Cold Fusion

Domain Names

.co \$32.95 .biz/info \$24.95
.com .org .net \$19.95

Register at www.look.co/easyhosting

Now You Can Take Your Office Home With You!

IPC introduces DeskNote A900 Portable Desktop

Portable • Affordable • Cost-Effective



• Portable
• Affordable
• Cost-Effective

DeskNote A900 DRAM/HD

- 19" C.T. 1286Hz Inmate CPU
- 128MB SDRAM (upgradable)
- 10MB HardDisk (upgradable)
- 34x CD ROM
- 10/100 LAN Network
- 56K PC Modem
- Integrated 2000-4xAGP Graphics
- 4 USB Ports
- M-F 324 TTY/LCD Display

- 19" C.T. 1286Hz Inmate CPU
- 128MB SDRAM
- 10GB HardDisk
- 4x DVD-ROM
- 10/100 LAN Network
- 56K PC Modem
- Integrated 2000-4xAGP Graphics
- 4 USB Ports
- M-F 324 TTY/LCD Display

What is a DeskNote?
A DeskNote is a full-function personal computer, which brings the latest desktop computing power and system technology of the same bunching level of an equivalent desktop computer.

Who Should Buy a DeskNote?
For computer users who have been compromising among portability, computing power and affordability, a DeskNote solves these trade-offs.

What Benefits a DeskNote Can Deliver?
A DeskNote carries a growing list of features that the sum of a desktop computer and 19" LCD monitor, which grows with the luxury of mobile computing on demand.

Measures 229 x 361 x 30mm, weighs less than 4.5lb

\$999.00 \$1199.00

Suggested Accessories to add to your DeskNote:

- | | | | | | |
|------|------|------|------|------|------|
|
 |
 |
 |
 |
 |
 |
|------|------|------|------|------|------|

AMD 1200 Processor

- AMD Athlon™ Processor 1.2GHz
- 128MB SDRAM
- 34x CD-ROM Drive
- 10/100 LAN Network
- Integrated 56K Modem
- 56K PC Modem
- Integrated 10/100 LAN Network
- Windows XP and Linux
- Operating System included
- Monitor 17" LCD

1200MHz

FREE with purchase
Hard Upgrade to 32GB Hard Drive

AMD
1.2GHz Processor

SPECIAL BONUS UPGRADE
AMD Athlon™ Processor 1.2GHz for only \$199.00
AMD Athlon™ Processor 1.2GHz for only \$199.00

\$699.00



IPC Universal 1000

- 1000MHz Processor 1.0GHz
- 128MB SDRAM
- 34x CD-ROM Drive
- 10/100 LAN Network
- Integrated 56K Modem
- 56K PC Modem
- Integrated 10/100 LAN Network
- Windows XP and Linux
- Operating System included
- Monitor 17" LCD

1000MHz

FREE with purchase
Hard Upgrade to 32GB Hard Drive

IPC
Universal 1000

SPECIAL BONUS UPGRADE
Upgrade to Microsoft Windows XP for only \$49.00

\$849.00

Accessories shown for illustrative purposes only



Take Four Pictures with Four!

Introducing Zetrix CoolDisk USB Portable Drive, starting at \$45.00



- | | |
|----------------|------------------|
| 32MB - \$45.00 | 128MB - \$95.00 |
| 64MB - \$55.00 | 256MB - \$169.00 |

32MB Drive Store up to 256 digital camera pictures to share with your family and friends



To Order, visit www.ipc.ca or call 1.888.446.4472

IPC Direct is a registered trademark of IPC Direct Inc. All other trademarks are the property of their respective owners. IPC Direct Inc. is not responsible for any errors or omissions in this advertisement. The information in this advertisement is for informational purposes only and does not constitute an offer. The information in this advertisement is for informational purposes only and does not constitute an offer. The information in this advertisement is for informational purposes only and does not constitute an offer. The information in this advertisement is for informational purposes only and does not constitute an offer.